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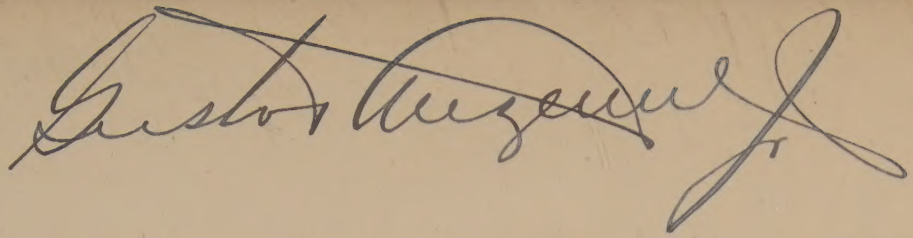

AN INTRODUCTION TO BUSINESS

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PREFACE

The growth of the social science group of studies in colleges of all types has developed the need of a survey course giving a comprehensive picture of the life of our day, and basic enough to serve as a common foundation for the later specialized studies of the curriculum. This volume has been prepared to meet that need.

The authors realize that there are many points of departure for such a course. It has seemed to them, however, that the description may with advantage center in the field of economic relations, as affecting directly the life-work of every student. This approach will be found useful, it is believed, not only in schools of business but equally in schools of agriculture, education, engineering, pharmacy, and the like, where there is a business aspect as well as a technical aspect to the profession for which the student is preparing. In connection with courses in economic theory, moreover, in colleges of all types, such a survey makes it possible to prepare the students for the study of economic principles by building up for them a concrete background out of the materials of commerce, industry, and business organization.

Next to the problem of selecting the field and the materials for this elementary survey is that of organizing the method of presentation. This volume has sought in the first place to present a broad picture of the entire business field without going far into detail at any point, and in the second place to give such historical material as is necessary for the understanding of modern business phenomena.

Space limitations have made it necessary to confine attention to the main businesses or industries of the country. The first few chapters are devoted to the business aspects of the industries furnishing the raw materials of commerce. Chapters

on production and distribution follow these materials into the workshop and to the consumer. The chapters on business organization and business functions follow those on the basic industries, as it is believed that the student can better understand such material if he brings to his study of organization and functions a preliminary picture of basic business institutions and some of their problems. Such topics as Risk Bearing Institutions, Business Men's Associations, and Relations of Government to Business, which involve a considerable knowledge of business institutions and functions, are placed at the end of the volume. Special attention is given throughout the discussion to the problems of the small business.

Effort has been made to give definiteness to the discussion by the introduction of concrete illustrations and the inclusion of questions and problems, planned to make the student think for himself and where possible to imagine himself in the situation described. In selecting and setting up the problems care has been taken to keep them clearly within the range of the student's powers.

In the preparation of the material extensive use has been made of the work of a large number of students in specialized fields to whom the authors feel themselves indebted. Valuable assistance in the work of organization and of presentation has been rendered by their colleagues at Ohio State University. Special acknowledgment of this sort should be made to Professors C. O. Ruggles, E. L. Beck, T. N. Beckman, C. A. Dice, and C. W. Reeder.

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AN INTRODUCTION TO BUSINESS

CHAPTER I

THE BUSINESS OF AGRICULTURE

The Importance of Agriculture.—If one were asked for the most wide-spread example of business, the answer would be: "The farm." Agriculture involves a larger investment today than the total invested in all our mines, railroads and factories. It furnishes employment for over one-third of the gainfully employed population of the United States. In many foreign countries the proportion is even larger. Only a few less than one half of our population live either on farms or in towns of 2,500 population or fewer—towns which are essentially rural, for they depend closely on the farms of their territory for their support. While inventions of agricultural machinery and better methods of distribution of farm products have made it possible to produce and distribute larger and larger amounts of farm crops with even less labor than of old, so many millions must remain on the farms that agriculture must continue our basic industry from the standpoint of bulk of products and the percentage of population engaged.

In another sense agriculture might well be called the basic industry, for to a very considerable degree, it furnishes the raw materials used in manufacturing enterprises. Most farm products must be changed in form before they are used by the consumer. This change of form constitutes a very important part of the manufacturing of the United States. For example,

practically all the wheat used is milled into flour for human consumption and into bran, shorts, and middlings for animals. A large part of the milk produced on the farm is manufactured into butter, cheese, or ice cream either locally or in city central plants. A number of factory processes are involved in changing cotton into cloth, and making this cloth into garments necessitates more factories and more factory employees. Millions of head of cattle, hogs, and sheep are sent to large packing plants—factories—to be changed into meat for consumption.

Still other thousands are engaged indirectly in agriculture through handling the products of the farms on their way to factories and to the consumers. Farm products are a very important part of the freight tonnage of the country. Terminal elevators, cold storage, and other warehouses as well as local elevators, packing houses, and stock-yards furnish employment for many men and much capital. Literally thousands of men and women serve agriculture by their connection with the various types of wholesale and retail dealers in farm products in our cities and towns. From all this it is readily seen that agriculture is a vitally important part of the economic organization of the United States and of other countries.

Location of the Farm Business.—In determining the location of a prospective factory it is necessary to consider such factors as the location of the market, the supply of raw materials, the power supply, the supply of proper kinds of labor, and a number of others. If a retailer locates his store improperly, the volume of business will be small. Likewise if the farmer does not properly locate his producing plant—his farm—he will not be fully successful, or he may even fail as a farmer business man. Perhaps the most important one of a number of location factors is the kind of soil on the different farms under consideration. If the farmer intends to specialize in live stock raising, he will note, for example, the lime content of the soil, for blue grass, one of the best pasture grasses, will

grow well only if that element is present. Corn demands soil with a good humus content. Alfalfa and other legumes can only be raised when the soil is naturally or artificially supplied with the proper bacteria. In addition to a number of special factors like the above, attention should, of course, be paid to such factors as the general fertility of the soil and its drainage. Investigation should be made of the recent history of the farm as regards the efficiency as farmers of recent operators, for fertility may have been exhausted, weed seed spread, and the buildings neglected. Care spent in studying and weighing different factors in location is well repaid.

Climate a Location Factor.—For many crops, climate is more important than soil conditions, for climate cannot be artificially modified. Certain crops, as for example corn and tobacco, cannot be raised beyond a definite northern limit. Other crops, as oats and flax, do better where there is not too much heat. Corn can best be raised where there are many hot nights. Long periods of continuous sunshine are necessary for coffee raising and drying. The high color of northwestern apples is in large part due to continuous sunshine during the growing period. Absence of rain helps the growers of these apples in fighting pests, for spray is not washed off the trees or fruit. Western wheat farmers take advantage of the absence of rain during the harvest season to allow the grain to become ripe enough to make it possible to use the combine, a machine which cuts and threshes the grain with one operation. Labor is saved by the practice of allowing sacks of wheat to stay where they are dropped until the harvest is finished some days or weeks later. Citrus and other fruits can be raised most safely where the climate is frost-free. Certain regions, as for example the Michigan fruit belt and the Chautauqua grape belt lying along Lake Erie, in New York, Pennsylvania and Ohio, are particularly well adapted to fruit production because the danger of frost is lessened by the presence of large bodies of

water which equalize the climate. Rainfall records of a number of years should also be consulted to ascertain if enough rain normally falls to raise the desired crops.

Other Location Factors.—Topography of the farm under consideration should also be noted with reference to steep hills, undrained areas, and hillsides where soil erosion is taking place. If fruit is to be raised, certain hill farms may be desirable because the contour of the hills may give frost drainage. Steep hills may be selected for live stock pasture, for their cost is relatively low.

Attention should be paid to the possibility of securing an adequate supply of the right kind of farm labor. Especially will this be true if intensive crops, such as truck vegetables, sugar beets, or fruit are planned. If a dairy farm is projected, absence of good milkers may force investment in a milking machine. These and many other possible illustrations show that the labor factor must not be neglected in locating a farm.

Like the manufacturer, wholesaler, and retailer, the farmer must consider the market for his product. For example, if a dairy farm is planned the presence or absence of a good local market, creamery, or condensery within hauling distance must be considered. Increasing attention is being paid to locating fruit farms along main traveled roads where a roadside stand may be erected. In the case of many farms poor roads make it impossible to deliver produce at the shipping point at certain periods of the year. It must be remembered that accessibility of market for certain articles is not only a product of distance but of transportation facilities which involve cost, frequency, reliability, and adequacy of service. Produce well raised must be well marketed if the cycle is to be complete. Inadequate transportation is often the limiting factor in marketing.

Although it is not strictly a business factor in farm location, the type of community in which the farm is located requires attention. Are there good schools? Is there a com-

munity spirit which adds to the attractiveness of the community as a place to live? Are there rural or village churches which sense their opportunity for service? Are there efficient stores within driving distance? These and other factors affect the success of the farm business, for like other businesses, environment aids or hinders its success.

Size and Form of the Farm Business Unit.—Students of farm management and of rural economics are not agreed on any fixed number of acres as the size of the farm that can be operated most profitably. One school of thought holds that a small number of acres intensively cultivated will yield a higher net return than a larger farm less intensively cultivated. There is much of truth in this contention, but other investigators have shown that below a certain number of acres for each major type of farming, there is a loss, in that machinery and horses are not operated enough days in the year to yield the greatest possible return. Other considerations seem to point to the "family size" farm—one of from 160 to perhaps 300 acres in most sections of the United States—as the most economical unit. As a matter of fact, most American farms come within these limits. Farms of this size may be operated, except for transient demands, with one hired man or with the help of growing children, unless the farm be a dairy, fruit, or vegetable farm. A few very large or "bonanza farms" exist in the United States. In a few cases several thousand acres are under one ownership and management and all operations are on a very large scale. Fruit farms of 100 acres or more require a very large amount of help and are equivalent in size of operation to wheat farms of 3,000 or 4,000 acres. But such fruit farms are not common in this country. As a rule, large farms in the United States have met with very limited success.

The Sole Proprietorship Most Common.—The sole proprietorship is by far the most common type of business organization used for farm ownership and operation. Neither the

balanced skill of the partnership nor the capital contributions and long life of the corporation are needed. The proprietorship is the simplest form of organization and in years past farming has been a single business. The farm is a single business under one manager—the head of the family—and hence fits the proprietorship form of organization. A few farms are operated as partnerships with two or more men as the farm operators, or in some cases with the operator of the farm as one partner and the owner as the other partner. This latter plan has proved to be less successful than the different forms of tenancy which accomplish the same purpose. Some of the large wheat farms are operated by corporations, as are a few dairy and fruit farms.

On the other hand much farming in the tropics is on a scale very much larger than that in the temperate zone. The type of laborers available work better under the supervision of a foreman than as independent producers. Many tropical crops require large investments in machinery, a requirement which eliminates practically all native enterprises. Some crops, as for example plantation rubber, require a number of years to come into bearing and hence can best be raised by a corporation which has the capital necessary to allow waiting some years for returns. But perhaps the greatest reason for large scale tropical agriculture is the fact that such crops as sugar, pineapples, rubber, coffee, and bananas have attracted the interest of people in temperate zones with money to invest. They have organized corporations to go into the business of raising these crops on a large scale. Managers and foremen are sent out from the home country, but the stockholders and directors manage the enterprises from a distance. The corporate form of organization fits this need excellently and is largely used for tropical farming, because of the large capital investment necessary in supplying sugar mills and transportation facilities such as rail lines, docks and steamship lines.

Capital Requirements of the Farm Business.—That the modern farm is a real business enterprise is further shown by a consideration of the capital requirements of the business. In fact, the farmer business man often has a larger capital investment in his business than does the banker or merchant with whom he deals. In addition to investment in land, the farm must be equipped with machinery and live stock and frequently cash expenditures must be made for drainage or for irrigation. Fruit farming, unless a bearing orchard is purchased, involves a wait of several years before the return from the fruit is received. A temporary income is, however, available by intercropping with annuals or by planting quick growing filler crops, as for example small fruits or peaches in apple orchards. But as a rule, the return received is comparatively small and a considerable period of waiting must be financed. In any event current family needs and the payroll, if labor is hired, must be met. Seeds, and in some cases fertilizer, require cash expenditure or the use of an expensive credit system. All this requires as definite a financial budget as that used by any manufacturer or progressive retailer.

Sources of Capital.—Sources of invested capital vary. Perhaps the most common source is savings made while operating a rented farm. Machinery is accumulated and live stock increased and some cash saved while a tenant. These savings are used as a small "down" payment on a farm. When the farm is purchased the down payment is supplemented by a first and often by a second mortgage and the earnings of future years are devoted to keeping up the interest and to paying off these mortgages. A few farms are financed by savings made by professional and urban business men who seek this type of investment. But in the main a farm is paid for from the profits made from the farm itself or from the profits made by operating a rented farm in earlier years. Some are never paid for but are passed from hand to hand, each purchaser assuming

the mortgage, and taking for his profit whatever increase in values there may have been. This type of operation is essentially speculative in nature, but a great percentage of the farmers of the Middle West of a generation ago made a large part of their profits not from farming, but from the increase in the value of farm lands.

First mortgages are given to private capitalists, to banks, to insurance companies, and to other investors who seek the safety offered by a first mortgage on good farm land. Many farmers now take advantage of the Federal Farm Loan Bank system of loans for first mortgage purposes, for in some respects these loans are attractive. Current and short time loans are usually met by borrowing from commercial banks or from private capitalists. Equipment is to an increasing extent financed by the seller on the installment plan. Although this plan increases the total cost of the equipment, it allows many farmers to secure equipment not otherwise obtainable, and lessens the actual cash capital needed to start farming. In a few sections of the United States cooperative credit associations furnish capital for approved purposes.

It will be realized that in general the financial problems of the farmer business man are those of other business men. Retail merchants must either own enough capital, or be able to borrow it from others, to finance their investment in buildings, equipment, and stock in trade. The farmer must finance his corresponding investment—his land and equipment. But the farmer does not have the financial backing of wholesale houses and of manufacturers as does the retailer, and hence his problem is in that respect more difficult. Both the farmer and the retailer buy some goods on credit, but in the case of the retailer the goods are bought for resale, and in a few days or weeks will bring in the money with which to pay the bill. But the farmer consumes the goods he buys, feeds them to animals, plants them as seed, or uses them for other purposes not at once productive of cash. The manufacturer has essentially the same

financial problem as the farmer, but in many cases he is able to reduce the capital needed for buildings by borrowing on them through a bond issue. In general, however, finance problems of the farmer are like those of other business men, with a tendency to become more difficult as the capital necessary to operate the modern farm becomes greater.

The Farm as a Business Unit

Equipment.—In considering the business aspects of modern farming one is impressed with the analogy which exists between the farm and the factory. Both must be properly located with reference to productive conditions and to the market. Both are often confronted with the problem of securing an adequate labor supply. Each enterprise must be properly and adequately financed. Each must draw upon modern science for aid and each must know and secure proper equipment for the type of production carried on. Modern farming, like the modern factory, has become to a large extent a machine industry. The ancient plow, a crooked or forked stick, has given way to the modern gang plow drawn by 6 or 8 horses or by a tractor. Harrows and discs have been devised to prepare the ground properly for the various crops. Planting machinery is essential, though highly complex and very expensive. Harvesting machinery takes the form of a series of binders, combines, headers, threshing machines, silage cutters, fodder shredders, and corn huskers. Many dairy farmers now use milking machines, while still more separate the milk from the cream by machinery. Motor trucks are used to supplement horse drawn vehicles on the farm and to take products to market. Many substantial farmers now light their homes, and their barns as well, from the farm power plant. On many farms flowing water lessens the work of both the farmer and the housewife. Few farms are now complete without a portable gas engine to furnish power for many small chores formerly performed by hand.

One of the most recent farm machines is a loader operated by a tractor for loading manure onto a spreader.

Not only has the use of modern machinery changed farming methods, but machines used elsewhere aid the farmer just as vitally. The effect of the invention and use of the cotton gin is too well known to need elaboration, but it should be mentioned that this one machine—usually located at the central shipping point—has made the world cotton industry possible. The farmer sends his wheat to be ground into flour in great mills which, because of their use of efficient machinery, are able to sell back to him such products as bran, shorts, and middlings. Because large packing plants are equipped with machines which save and process the refuse of the packing industry, the farmer is able to buy this refuse for feeding to his hogs and poultry and for use as fertilizer for his land. A recent development has taken the hatching of young chicks into machine equipped factories, one of which hatches over 3,000,000 chicks each year. Others examples could be given to show that the machine equipment of the modern farm is supplemented by machines, which, although not used on the farms, are really performing a part of the work of producing farm products.

Another effect of the use of machinery on and off the farm has been to lower the expense of producing farm products and of preparing them for the market. The economies of the large packing plant or of the flour mill, for example, have lowered the cost of meat and flour to the consuming public and have thus increased consumption of these products. This has increased the demand for the raw materials used for these products and increased the farm price of wheat and of meat animals and the acreage devoted to their production.

Economic and Social Effects of the Use of Machinery.—The wide-spread use of machinery has had important economic and social consequences on farm business enterprise. One outstanding effect has been felt in the decreased amount of farm

labor necessary to raise farm crops. The Department of Agriculture estimates that the machinery used in corn raising has reduced the labor cost of a bushel of corn from 37.77 cents a bushel to 10.57 cents or a decrease of about 70 per cent, and has reduced the human labor time from 274 minutes to 41.3 minutes, or over 84 per cent. The effect of machinery on the labor cost of other crops has been just as striking. Machinery has made it possible to cultivate land more intensively, to increase the total acreage of land under cultivation and at the same time to decrease the number of laborers on the farm.

Increased use of farm machinery has operated to add to the attractiveness and to eliminate much of the old-time drudgery of farm life. Most farm operations are now performed by a machine pulled by horses or a tractor and operated by the driver, who sits on a fairly comfortable seat attached to the machine. Milking machines have done much to eliminate one of the unattractive features of dairy farming. The wide use of the automobile and the motor truck has reduced the time spent in getting to the village.

Farm machinery has increased the thoroughness with which the land is tilled. Plowing is now deeper, harrowing more efficient, and planting is done more opportunely. The use of large-scale harvesting machinery has reduced the loss from inability to harvest grain at the proper time. Increased yield has added to the income received by the farmer both in cash and in articles grown and consumed on the farm. Farm products from the temperate zone are sent to the four corners of the earth in exchange for the tropical and oriental products consumed at the farmer's table. Increased cash income—largely the result of the right kind of equipment—is spent for many articles of luxury unknown to the farmer of a few decades ago.

Farm Labor.—As has been noted, the farmer, like the manufacturer and the retailer, often finds difficulty in securing the right kind of employees. Increasing attractions in the

city have taken many workers who would otherwise be available for the farm. Higher standards of education have reduced the amount of labor done by the farmer's children during their younger years. Intensive farming has increased the need for labor in some sections. Some types of farming require large gangs of laborers under the direction of a foreman, but the typical farm laborer in most parts of the United States is what is known as a "hired man." The average farm needs but one such laborer and hence he is taken into the home practically as one of the family. He eats at the table of his employer and sleeps in the same house. His washing is done by the housewife and he is given a garage for his car. His wages seem small in comparison with those of factory workers, for they are often as low as $30 or $40 a month. But a good part of his wages are paid in the form of board, room, washing, etc., as shown above. Some farm hands are married and are given the use of what is commonly known as "the tenant house"—a small cottage on the farm—for their use. They are usually given the use of a garden, milk, and eggs for their table and a larger cash payment than the unmarried man.

Unlike most mercantile or factory employees, farm hands are often looked on as virtual members of the firm to the extent that their advice is consulted on matters of farm policy and methods of doing the work. In this way their more intelligent cooperation is secured. These men are farm born as a rule and are thoroughly competent to operate the different machines and to do the varied work of the general farm. They must be trusted to operate machinery and to care for stock and crops with little or no direct supervision. These conditions are quite different from those of the factory or store, for in those occupations there is no common life between employer and employee, except, perhaps in the smaller towns. There is no living together in the same family and little work side by side on the same job in city occupations. For these reasons some of the labor difficulties of city businesses are not found on the farm.

But the farmer business man has his labor problems just as truly as manufacturers and retailers.

Certain special kinds of farming modify the general conditions above described. On the larger farms in the cotton belt, considerable gangs of workers operate under one foreman. Intensive crops, such as sugar beets, require large amounts of hand labor. This is often supplied by bringing in gangs of foreign workers from nearby cities for the hand operations. These workers are provided with shacks for living places and work under the direction of a foreman. In some cases, as for onion weeding or apple thinning and picking, gangs of high school boys are used. Fruit farming usually requires much extra hand labor for spraying, pruning, thinning and picking. Migratory workers are used in some cases and in others workers come from nearby towns. The large wheat farms of the Middle West and Northwest require large numbers of temporary workers for the harvest season. Migratory workers, factory and office employees and college students attracted by the high wages are the principal sources of labor supply for the harvest fields. Many of these workers start in the south and move north as the harvest progresses. Although a relatively small number of workers can do the work of many wheat farmers in this way, the total number of extra workers required in the harvest fields each year usually runs into thousands.

Tenantry—A Phase of the Farm Business.—A business relation which is peculiar to farming is the system of leasing farm lands known as tenantry. No other business has a plan of operation which corresponds exactly to this. Never does a retailer turn his stock of goods over to some other person, who claims to be a merchant but who is without a stock of goods, with the understanding that the recipient is to operate the store, buy and sell goods, and at the end of a stated period turn back the store just as he took it together with a stated amount of cash or a percentage of the profits made. Factories are rarely

if ever operated on this basis. Yet this is just what happens when a farm is rented. Either the land and buildings, or land, buildings, and live stock are turned over to the tenant in the spring of the year. He is allowed to use the land and equipment as he sees fit, or with certain restrictions, and at the end of the year pays a certain amount of cash or a definite share of the crops for the use of the land. The system has grown up as a result of the increasing amount of capital necessary to operate a farm and the usual inability of most farmers to command immediately the capital necessary to land ownership.

Investigation has shown that about 40 per cent of the farms of the United States are now operated by tenants. In some countries as high as 90 per cent of the farms are thus operated. As farming has become more and more of a capitalistic business, the percentage has increased, for it has become increasingly difficult for a young farmer to start other than as a tenant. In a typical Illinois township an investigation showed that ownership relations of the farms were as follows: 15.5 per cent had been secured by inheritance; 69 per cent were owned by farmers who had once been tenants but who had bought their farms on the deferred payment plan, the mortgages given at the time of purchase averaging 63 per cent of the purchase price. Only 15.5 per cent of the farms had been purchased for cash, and in most cases this came from the sale of other farms. These figures are given as typical of what is happening all over the farming sections of the United States. The more ambitious farm hands save enough of their wages to become tenants. Reasonably successful tenants advance to the rank of farm owners by accumulation of their savings while tenants until they have enough to make the down payment on a farm and carry the rest of the obligation on one or more mortgages.

Rental Contracts.—Various kinds of rental contracts are used by the tenants and their landlords. Perhaps the most common contract the country over provides that a certain share

of the crops shall be given to the owner of the land. In most cases the tenant harvests the landlord's crop, but in some sections of the country it is common practice to leave it to be harvested by the landlord. Usually this contract provides a cash payment for the use of pasture lands, unless the owner has furnished the stock and shares in the profits made from this part of the farm operations. When the renter wishes to assume more of the risks of the independent business man he pays a cash rent for the use of the land, an amount which must be paid regardless of the size of the crops or the price realized from their sale.

Farm Marketing.—Later in this text it will be shown that marketing is one of the essential activities of practically every business enterprise and that many business men succeed or fail to the extent that they are able to market their products successfully. Farming is no exception to this general statement. In the past much more emphasis has been placed on the problems of producing farm crops than has been devoted to the efficient marketing of these crops after they have been produced. Because of this fact and as an outgrowth of the growing complexity of the problems of marketing the products of specialized farming, and the growing distance between the grower and consumer, a considerable amount of inefficiency has crept into the system used in farm marketing. Something of the particular market structure which has been erected for the distribution of farm crops, and something of the changes in this structure which have been proposed, will be the subject of a later discussion in connection with a treatment of the problems of marketing as a whole.[1]

Farm Records.—Record keeping is an essential phase of all business. Its importance is emphasized more when business enterprises are large, when large amounts of money are involved and when many paper transactions are characteristic of

[1] See Chapter X.

the business. Farmers have as a rule been prone to neglect the keeping of proper records or have been interested only in such records as might be kept "in their heads." This has led to considerable inefficiency and to actual financial losses in thousands of cases. Some suggestions as to the scope of farm record keeping will be made in connection with the discussion of business records. It may be said at this point that many farmer business men need to adopt some of the efficient methods of record keeping which have been developed in other fields of business in order that this phase of the business operation of the farm may be more efficient.

Business Judgment on the Farm.—Operation of a farm business involves just as many problems as does the conduct of any other kind of business. The farmer, like the factory owner, is faced with a very real problem when he must determine at what point it is profitable to replace labor with machinery and when it is profitable to scrap machinery in order to replace it with more efficient machines. Other typical problems are suggested by the following questions. At what point does it pay to cease renting and to buy land? Can a certain tract of rented land be farmed profitably in connection with owned land? Does it pay the average farmer to spend a considerable amount of money for pure bred stock rather than to use cheaper animals? At what point should extensive farming give way to intensive farming on a particular farm? The successful solution of these problems is just as important for the farmer as are the decisions made on other matters by other classes of business men.

Science and Agriculture

Crop Breeding.—Science has given many new methods to modern manufacturing and has made of it an industry which rests on the firm foundation of the natural, physical and engi-

neering sciences and which depends more and more on the careful study of the problems and methods of business now being made by students of business administration. Just as important are the contributions of science to agriculture. So far have these contributions gone that the modern farmer must know the practical applications of the science of plant and animal breeding. He must know what to feed his live stock in order to follow the teachings of the science of nutrition. He must know how to use scientific methods in the control of plant and animal diseases and pests. Not only have new plants been introduced and destructive diseases controlled by the aid of the scientist, but existing plants have been made more useful. For example by a selection of frost resistent and early maturing varieties of corn, the corn belt has been pushed several hundred miles farther north. The present importance of the beet sugar industry is the result of the exigencies of the Napoleonic Era which forced the low countries to increase the sugar content of the beet. By proper hybridizing, over 2,000 varieties of American grapes have been developed and adapted to different soil and climatic conditions.

Many other examples of the contributions of science to present day agricultural methods might be cited. For example, early maturing varieties of cotton have been developed which have lessened the evil of the boll-weevil. Smut resisting varieties of wheat have been developed in recent years, which will add millions annually to the value of the wheat crop. Animal breeding has resulted in the development of distinct types of cattle, hogs and sheep, and has enabled farmers to improve the production of the animals which they raise. Breeds of poultry with remarkable records of egg production have been developed. The average weight of a fleece of wool has been increased from about 2 ounces in the Middle Ages to several pounds at the present time. New crops have been given to the farmers of the world by agricultural scientists. A striking example of this is the growing of Egyptian cotton in our southwestern states.

No Smyrna figs were produced in this country until scientists showed that a necessary factor in their ripening is the presence of the fig insect (Blastophaga). Nine years after the introduction of a single package of Sudan grass seed the value of the crop of a single year was $16,200,000. Perhaps no other contribution of science has been more important than the introduction of leguminous crops, for by their addition of nitrogen to needy soils, thousands of acres of land have been retained in production.

Other Contributions of Science.—Were it not for the study of the life history of various insects and fungus diseases which have been made by entomologists and plant pathologists, the commercial production of apples, citrus fruits, cherries, peaches, and pears would be a thing of the past for only small, ill-shapen and wormy fruit would be possible. These scientists have shown what insecticides and fungicides to apply and when to use them. Similarly it has been discovered that black stem rust—a disease which attacks growing cereals—is spread by the common barberry bush. Government officials are leading in the destruction of these bushes in cereal growing regions. Much has also been done in the development of varieties which resist disease and in the spread of insects which aid in growing crops or which destroy their enemies. A single example shows the importance of the work of the modern veterinarian in the control of live stock disease; by introducing the use of serum treatment for hog cholera the loss from this disease has been almost eliminated.

Notable contributions to agriculture have been made by soil physicists and chemists, for they have shown that different crops take different elements from the soil and that soil elements must exist in the proper combinations if the largest crops are to be produced. A familiar example is the common practice of adding lime to acid soils. Studies of nutrition problems have done much to make possible quicker and cheaper live stock

production. Nutrition experts, for example, have demonstrated that corn is not a perfect ration for fattening hogs but that protein must be added either by pasturing the hogs on a leguminous pasture, or by feeding them some such food as tankage. They have shown that the addition of a certain amount of protein to the food of laying hens will increase egg production, and that the addition of minerals in the form of oyster shells or limestone is also valuable.

Some Effects of Scientific Agriculture.—The changes brought about by the union of science and agricultural practice have had far reaching effects. Perhaps the most notable is in the increase in the quantity and quality of consumption goods. Plant breeding has given more perfect varieties of fruits and vegetables as well as those which yield greater crops. Animal breeding has given better bacon to the breakfast table because of the bacon type hog. Varieties of crops have been developed to meet the needs of certain type of soils and certain climatic conditions, as for example potatoes for acid soils, and quick maturing corn for the northern states. Studies of storage problems have aided refrigeration in adding to the period of consumption of many foods. For example, it is now possible to buy northwestern boxed apples on eastern markets in at least 11 months of the year. The use of sprays has saved the soft fruit industry of the world. New crops have developed areas thought to be unfit for agriculture. Eventual control of the boll-weevil promises to save the cotton crop of the south. Amendment of worn out soils by the use of commercial fertilizer and the growth of leguminous crops have retained thousands of acres of eastern and southern lands in cultivation.

One general effect of science on the farm has been to eliminate or reduce some of the risks of farming. Not only does this make farming as a business more attractive, but because of the stimulus which is given to production, the consumer benefits through lower prices. The union of science and agriculture

has to some extent affected the farmer himself. He must be able to understand how to use the scientific practices given him by the laboratory scientist. Unwillingness to change methods of farming to meet new conditions has eliminated many who have tried to farm without adopting new methods of production and disease control, for they have been unable to compete with the more efficient producers. The use of farm machinery has increased the amount of invested capital on the farm as have drainage and irrigation. Blooded animals have also added to the expenditures and added to the inevitable increase in the prices of farm land in recent years have combined to make the farmer less a manual worker and an artisan and more of a business man than was his predecessor of a few decades ago.

Agencies of Scientific Agriculture.—A consideration of the varying contributions of science to agriculture would show that the research and experiments upon which modern farm practice is based have been made by scientists. Perhaps the larger number have been connected with some of the 63 state or territorial experiment stations. These stations employ a group of scientists who carry on their experiments both in the laboratory and on the farms connected with the stations. Financial support is given jointly by the state and by federal government. Fruits, vegetables, and cereals are raised under varying conditions of soil, climate, moisture, and time of planting, and results obtained are carefully noted, compared, and analyzed. Breeding experiments are conducted and feeding tests are made. Besides the 63 main stations 144 branch stations and a similar number of experimental farms are used. Furthermore, hundreds of farmers cooperate by allowing tests to be made on their farms and by testing new ideas while still in the experimental stage. In general, individual farmers cannot conduct experiments, for they do not have the facilities for continuing them nor do they feel justified in making experiments the financial results of which are uncertain. Hence the

state and federal governments conduct the experiments through their different agencies and make their results known to the world. Hundreds of bulletins and pamphlets in addition to newspaper stories make this information available for the farmers of the country. Foreign countries have also contributed to scientific progress through the work of many efficient experiment stations.

A second agency which has contributed much to agriculture is the large group of scientists connected with the research and teaching staffs of the various universities and colleges. Stimulated by a love of research and a vision of what science can do for the world, these men have devoted countless hours to research and experiment. Many of the most valuable discoveries in agricultural science as well as in other fields of science have come from these men.

The Federal Government and Agriculture.—The Federal Department of Agriculture supplements the work of the state experiment stations in a number of ways. Reference has already been made to its aid in the introduction of new crops. Field men of this department are constantly on the watch in all parts of the world for crops which may be useful in certain sections of the country. Field studies in different states are constantly under way in such subjects as marketing, farm record keeping, farm management studies, etc. These studies are made by field men who visit the farms and thus relate their study to actual conditions. Results of these investigations and of other phases of the work of the department are distributed in the form of bulletins, over 250 bulletins having been issued in the year 1923. The Department also renders a service in giving advice on specific questions referred to them and in cooperating with the work of the 2,000 county agricultural agents. These men are paid by federal, state, and county funds and are under the supervision of the directors of the state experiment stations. They have been of inestimable value in helping the farmers

adopt advanced practices and in advising them on their production and marketing problems.

Other Aids to Agriculture.—Many of the items of scientific knowledge have been given to the farmers by experiment stations in foreign countries and by other foreign institutions of learning. Many private individuals have made important discoveries, as, for example, Mendel's Law, the discovery of a German priest. A few individual farmers have contributed their part in the development of new strains of corn. Nursery men have aided greatly in fruit culture and development. Such commercial concerns as the harvester companies and the packers have done a great deal to spread scientific knowledge. Trade associations, such as those of the limestone and cement producers, have contributed to agricultural progress by showing the uses of their products. Many of the railroads have helped by running "better seed corn" trains and "better dairy sire" trains, and by furnishing transportation for members of boys' and girls' clubs to expositions and conventions. Country banks have in some cases provided agricultural advisers and commonly cooperate by aiding in the purchase of animals for boys' clubs, and in offering prizes for the best products of pig clubs, calf clubs, etc. In fact, modern scientific agriculture is the result of a large number of cooperating factors.

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CHAPTER II

BUSINESS ASPECTS OF THE LUMBER INDUSTRY

The Importance of Forests and Forest Industries.—Lumbering, like agriculture, is a basic industry. Not only does the industry offer employment directly to thousands of workers and represent an investment of millions of dollars but it constitutes a source of raw materials upon which many great industries depend. The annual normal building in the United States is about 400,000 structures. To this demand for lumber for building construction, there must be added the demands of such industries as the manufacture of boxes and crates, furniture, cars, vehicles, implements, ships, paper, fiber board, naval stores, as well as the chemical industries, etc. There is not an industry nor an individual that does not consume forest products to a greater or less extent. Pulp wood production alone reached the stupendous total of 3,521,644 tons in the year 1922, while the turpentine and rosin production of 1919 had an estimated value of $53,000,000, with 31,000 persons engaged in this branch of the industry. The value of wood products utilized in 1919 in the manufacture of dye-stuffs, extracts, tanning materials, and wood distillation is estimated at $35,000,000. The railroads of the United States make annual drafts upon our timber supply to the extent of some 87,000,000 railway ties.

In spite of the pre-eminence of coal as a fuel, wood constitutes a secondary fuel supply of great importance. To a certain extent the use of wood as fuel constitutes a drain upon our forests, but a very substantial percentage of the total wood so consumed is represented by slabs, sawdust and other by-products of lumber manufacture, or is in the form of timber

too small or otherwise unsuited for the manufacture of lumber or other wood products.

The Forests of the United States.—The continental United States originally contained about 822,000,000 acres of forested land. The expansion of settlement, cultivation, and the operations of timber using industries have reduced this area to 138,000,000 acres of virgin forest. In addition, there are about 250,000,000 acres which have been cut over and now bear culled or second growth stumpage, or small trees of little present value. We have some 81,000,000 acres of practically barren burnt and logged off land. Of the total land area of the United States about one-fourth, or approximately 469,000,000 acres, may be classed as forest or potential forest land.

The original forest stands of the United States probably contained about 5,200,000,000,000 [1] board feet of merchantable timber. This amount has been reduced to approximately 1,600,000,000,000 feet of virgin timber and 600,000,000,000 feet of second growth and culled timbers, a total equivalent in quantity to about 42 per cent of the original stands. The quality of much of the remaining timber is, however, much inferior to that of the original stands.

The Alaskan forests with the exception of those in the southwest portion have small saw timber possibilities. Most of the Alaskan timber is small and is suited only for paper pulp.

Forest Depletion.—Recognizing the important part which forest products and the existence of forests play in human economy and realizing the limits which transportation costs and the necessities of other nations set upon the importation of lumber and lumber products, the American people are beginning to inquire seriously into the matter of forest depletion and the probable future supply of American timber. It is es-

[1] The board foot, the standard unit of measure in the lumber trade, is equivalent to 1 square foot of lumber 1 inch in thickness.

timated that the remaining saw timber of softwood species is disappearing about 8½ times as fast as new growth is replacing it, while hardwood saw timber is disappearing at the rate of approximately 3½ times the annual growth. All drains upon our forests such as lumber, fuel uses, paper making, distillation, etc., result in an annual consumption of approximately four times the rate of growth.

Already the growing scarcity and increasing inaccessibility of American timber is being reflected in a decreased per capita consumption of lumber. Per capita consumption in the United States reached its peak at 516 board feet in 1906 and has since declined 40 per cent. While it is true that substitution of steel, cement, and clay products is partly responsible for the decline, nevertheless the decline represents in part demands which have gone unsatisfied because of the high price of lumber.

Forest Wastes.—The rate of forest depletion in the United States is increased by enormous wastes, some of which are avoidable and some of which are not. We obtain, under present practices in the United States, only 1,000 board feet of lumber from each 219 cubic feet of standing timber, while under the average European standard 1,000 board feet require only 175 cubic feet of standing timber. This inferiority in American yield is largely due to such wastes as unnecessarily high stumps, unnecessarily large tops left in the woods, excessive slabs, edgings and trimmings, and in the exclusive use of even lengths and widths. Inefficient methods of manufacture and seasoning are responsible for substantial wastes, as are also the lack of adaptation of certain kinds and dimensions of timber for the uses to which they are put.

Forest fires lay a heavy toll upon American forests. Nearly 52,000 such fires occurred in the United States in the year 1922, burning a total of over 8,000,000 acres of forest land and causing a loss estimated at nearly $17,000,000. Forest fires not only result directly in great losses of a valuable re-

source, but also constitute a serious factor in the discouragement of commercial reforestation. In addition to the destruction wrought by forest fires, fires in structures increase the drain on our forests. For example, in 1920 the building fire loss of the United States was estimated at $330,854,000, a considerable part of which may be attributed to carelessness or to forms of construction which increase the fire hazard.

Much of the waste in connection with logging and saw mill operation results from conditions peculiar to these industries. The separation of many logging areas from centers of population and labor supply prevents the utilization of much material which, in thickly populated areas with their greater demands for material and larger labor supply, would have substantial value. Shipment of short lengths, slabs, and very inferior woods over great distances is usually prevented by the small value of such production in proportion to its bulk.

Unstable prices, characteristic of the lumber trades, are productive of timber wastes, in that during periods of low prices, the inferior lumber in a tree, and the short lengths, may be not worth saving and only the high grade lumber warrants shipment to market.

The Price of Forests and Forest Products.—As might be expected, the drain upon our forests, together with the tremendous demand for lumber products, has resulted in substantial increases in prices. Tendencies in the value of standing timber are especially significant. The average value of standing timber for all species and all regions increased from $1.89 per 1,000 board feet in 1889 to $2.18 in 1899, $2.59 in 1904, and $5.02 in 1919.

The price paid by the average user of ordinary construction lumber has more than doubled within the last 12 years; in fact the freight now paid on lumber is often more than the price of the lumber itself plus the freight 30 years ago. Within the past 80 years, the average retail price of lumber has ad-

vanced 3½ times as rapidly as the index based on all staple commodities.

World Forests.—The rapid depletion of the forests of the United States has created an interest in the possibility of avoiding a future timber famine through importation of lumber from abroad. An examination of the forest regions of the world will disclose the fact that we cannot safely rely on foreign sources to supply our own deficit. While Canada, Russia, and the Scandinavian countries have large timber areas, the demands of the European market, together with high transportation costs promise great scarcity and high prices when we shall have exhausted our own timber supplies.

The tropical forests although extensive cannot be depended upon as a source of cheap lumber supply. Tropical forests are characterized by the absence of solid stands of merchantable timber. The scattered character of the useful cabinet wood trees, such as mahogany, teak, ebony, and rosewood, lack of adequate transportation facilities, scarcity of labor and capital, and in some cases political instability combine to limit the lumber possibilities of these regions. In fact, many countries which possess great areas of tropical forests import soft woods because of the difficulty of logging in their own forests and the unsuitability of tropical woods for ordinary construction purposes.

Lumber Substitutes.—Substitutes for wood such as steel, cement, and clay products are gaining ground and it is frequently assumed that substitution will prevent any acute lumber shortage. In a country such as ours with its increasing population and industrial progress substitutions have tended to take up the normal expansion in the demand for timber rather than to reduce the actual volume of wood consumption. When substitution has resulted in the replacement of lumber with a material inherently superior it is economically advantageous, but where substitution is forced by shortages and high prices it

constitutes an economic hardship. In connection with the question of substitution it should be noted that many substitutes for wood in construction necessitate the use of considerable lumber either in the form of permanent combinations with the substitute or for temporary purposes, as in form construction for concrete work. Even in the case of brick construction, much lumber is used in the form of joists, rafters, floors, lath, mill work, etc. It has been estimated that 15 per cent of the cost of concrete construction is for lumber.

New uses for wood tend to take up any slack created by the adoption of substitutes. Pulp wood consumed in the United States in 1889 totaled 1,986,310 cords. By 1922 our pulp wood consumption had increased to 5,548,842 cords. The use of wood in the making of fiber containers and wall board also shows a great increase and many regard the uses of wood by the chemical industry as only beginning.

Necessity for Forest Conservation.—Forest conservation and reforestation are subjects of increasing interest to the American public not only because of the values of the forest products themselves but because of the value of forests as forests.

Forests are of great value in conserving rainfall. The forest floor is frequently carpeted to a depth of several inches with decomposing leaves and other vegetable matter which is highly retentive of moisture. Moreover, the shade of the forest retards the rate of evaporation and prevents the drying up of springs and small brooks during periods of drouth. As a result the precipitation of forest lands usually filters slowly and steadily into the streams with a more equable consequent stream level and flow than is characteristic of denuded areas. The intensity and frequency of floods are materially reduced by the existence of forest cover at the headwaters of streams.

Effective river navigation depends upon regularity of flow and depth of water. The water power possibilities of any

stream are practically fixed by the flow at low water stages. The irrigated farms of the western United States produce annually crops three times as valuable as the precious metals mined in the same states. The water supply needs of the American people point to the necessity of water conservation. In fact, many American cities are maintaining municipal forests at the headwaters of the streams and lakes from which they draw their water supplies.

Forests are also important factors in soil conservation, for they hold the soil on steep slopes and add to and improve the quality of soils through the decomposition of vegetable matter. Forests modify climates, for since they are cooler in summer than are adjacent open areas, winds from the forests cool nearby areas. In winter forests serve as valuable windbreaks.

Forests also serve as valuable animal ranges. However, unless grazing is done under the most careful restrictions it is extremely destructive of forest growth.

Forests are valuable as a wild life refuge. Wild life yields products of value in the form of food and apparel. Moreover, forests constitute refuges and breeding places for many birds, man's able assistant in the war on destructive insect pests. Forests with their wild life and the attendant hunting and fishing possibilities offer recreational opportunities for millions of people. In 1923 it is estimated that 1,280,806 persons visited our national parks. In addition to this number, millions of other persons visited the various forested areas of the United States. It is estimated that visitors to the forests and lakes of Maine spend in the state about $50,000,000 a year. As the movement from country to city increases in the United States, it becomes increasingly important that we maintain forested areas for recreational purposes.

Obstacles to Forest Conservation and Reforestation.—Of the 469,400,000 acres of forest and denuded land in the continental United States, 89,000,000 acres are owned and con-

trolled by the federal government, approximately 8,700,000 acres are owned by the states, 400,000 acres are embraced in municipally owned forests and watersheds, and approximately 371,300,000 acres are privately owned. Of this privately owned acreage 150,000,000 acres comprise woodlands attached to farms which leaves 221,300,000 acres as holdings of lumber and paper companies, railroads, mining companies, and other commercial organizations.

Up to the present time, the distribution of ownership of our forest lands has constituted an obstacle not only to economical cutting of our timber but also to reforestation and the proper care of our forests. Private capital has been interested primarily in immediate financial returns, and the length of time required to bring planted forests to a productive state has prevented any extensive program of replanting, although much of our forest area will naturally reseed itself if protected from fire and excessive grazing of live stock.

The fire hazard constitutes another obstacle to conservative uses of our present timber supply and to reforestation by private ownership. The possibility of fire losses, together with the financial necessities of timber owners often encourage them to proceed with the speediest possible cutting and marketing of their standing timber. A composite cost statement issued by the West Coast Lumberman's Association based on figures for 51 operations showed an average investment in standing timber of $31.69 for each thousand feet of annual cut. Stumpage investments such as are indicated here are reflected in heavy carrying charges in the way of interest, taxes, etc., and encourage the rapid exploitation of timber holdings.

Unsound taxation policies have in many of our states discouraged timber growing. A tax paid upon growing forests, which yield no income for some 40 years, is as unjust in principle as would be the taxing of farm land with its growing crop 40 times between planting and harvest. In many cases taxes are sufficiently low not to constitute a barrier to private refor-

estation, but in other cases either prohibitive taxes or the fear of the subsequent imposition of prohibitive taxation discourages private timber growing ventures. Many people today favor the imposition of a severance tax [2] as the principal if not the exclusive form of forest land taxation, this severance tax to be paid once and for all at the time when the timber is cut. European forests are commonly subjected to such a tax.

Reforestation in the United States.—The combination of circumstances mentioned above has resulted in a negligible area of planted forests in the United States which in the aggregate does not exceed 1,500,000 acres. Twelve and one-half per cent of this acreage has been planted by the federal government, 6 per cent by state governments, less than 3 per cent by municipalities, and 75 per cent by farmers and owners of country estates. The amount of planting by lumber companies and other commercial interests is negligible. The interest in tree planting is rapidly increasing, however, and at least 8 states now maintain nurseries for the production of stock which is used for planting state land and also distributed to private land owners. While, as has been indicated, much of our cut-over lands will naturally renew themselves if protected from fire and destructive grazing, particularly if seed trees are left, nevertheless there are substantial areas which need replanting either to produce any timber stands whatsoever or to supplement natural reseeding with the object of increasing the productivity or determining the varieties of timber.

Private reforestation is already being stimulated to a small extent and will undoubtedly receive further stimulation from developments in the paper industries. The large power and water requirements of the wood pulp manufacturing industries, the fact that wood is too bulky to be shipped far to the mill and the large capital investment per plant prevent the free movement of the industry. The exhaustion of accessible wood sup-

[2] A severance tax is one which is levied at the time when timber is cut on the basis of the quantity of timber cut.

plies would bring very substantial losses, and as a result certain paper manufacturers are manifesting a keen interest in reforestation. The ability of the paper and chemical industries to utilize small-sized trees, thereby shortening the period of waiting for financial returns, should stimulate reforestation and the placing of lumbering on a cropping basis.

The Elimination of Wastes.—About 54 per cent of our forest area receives a measure of fire protection. This includes the national and state forests, national parks and reservations, and approximately 160,000,000 acres in private ownership. Of the 39 states containing important areas of forest land 27 have organized more or less adequate forest protection. Many millions of acres of privately owned forest lands receive no fire protection whatever, but the interest of both the states and of private timber owners in fire protection has been stimulated by the cooperation offered by the federal government to the states in the protection of the forested lands on the watersheds of navigable streams.

Wasteful logging methods and wastes in timber utilization are being reduced as lumber prices advance and our knowledge progresses. Authorities state that the United States may avoid a future lumber famine through scientific forestry. Present indications do not point to a serious curtailment in the immediate future of our total forest and potential forest land areas. While a considerable acreage now in forest will undoubtedly pass to agricultural uses, indications are that intensive cultivation of agricultural land now cleared will create a competition which will result in such a measure of abandonment of lands at present used for farming as will maintain our acreage of lands available for tree growth. With approximately one-fourth of our land area well suited to forest growth and not needed for agricultural purposes we should, with good management, be able to supply the reasonable timber needs of our population.

The Lumber Industry

Location and Transportation Costs.—One of the outstanding characteristics of the American lumbering industry has been its migratory character. Prior to 1870 the timber lands of the northeastern states constituted the principal source of supply for the entire United States. About 1870 the region adjoining the Great Lakes wrested the leadership in timber production from the northeastern states. By the early 90's the decline in lumber production in the Lake states and the development of lumbering in the southern pine states resulted in the latter group of states succeeding to the leadership. The Pacific Coast states now contain the greatest stand of soft wood timber remaining in America, over 90 per cent of which is in virgin stands. These forests are just entering their period of active large scale exploitation, producing at the present time approximately one third of the entire lumber production of this country. Large shipments of western lumber are already moving to the eastern markets by rail and by way of the Panama Canal, and are entering into active competition with southern pine lumber.

As section after section has passed from lumber exporting to lumber importing, and as the timber producing areas have become more and more distant from the area of large lumber consumption, our annual bill for transportation of lumber has reached a tremendous total. The northeastern states, once the center of lumber production in the United States, now import approximately 62 per cent of their consumption at an annual cost for transportation of about $65,000,000. The Lake states, which succeeded the northeastern states in lumber production leadership, now import 47 per cent of their consumption, and pay an annual transportation bill on lumber of $30,000,000. The central and southern hardwood region, which consumes 46 per cent of the national cut of timber of saw-log size, through its dependence on imports of southern pine and northwestern

softwoods pays an annual transportation bill of $120,000,000. The Rocky Mountain states, because of the present inaccessibility of many of their own forest stands, import half of the lumber which they use. All told, it is estimated that in 1920 lumber movements in the United States exceeded 1,660,000 carloads. In the 6-year period from 1914 to 1920 the average rail haul on lumber increased over 30 per cent with the result that in 1920 the average carload was hauled 485 miles. In the same period the total freight paid on lumber advanced approximately $100,000,000 until in 1920 it is estimated that the total cost in railroad freights and ship charters exceeded $250,000,000. This great transportation cost is likely to increase as our dependence upon Pacific Coast lumber increases and constitutes a part of the price which we must pay for the wasteful exploitation of our timber resources.

Financial Problems.—In certain respects, the financial problems of a logging and milling enterprise are analogous to those of mining enterprises. The dividends of both are those of wasting enterprises and cease with the exhaustion of raw material. In each case sound financial practice involves the setting up of reserves in order that the capital employed may remain intact when the raw material has been exhausted. If, under reforestation, a lumber company so arranges its cut as to insure a permanent supply of raw material, the analogy to mining then ceases and the lumber industry, in its financial aspects, becomes more truly analogous to the agricultural industries, in that the capital invested in land yields permanent returns. This condition of permanency, however, is rarely found in the American lumbering industry today. As a whole its condition closely resembles that of mining.

Where, as is frequently the case, ownership of forests is combined with logging and milling operations, the industry on the financial side, contrasts strikingly with many manufacturing industries. Logging and milling equipment resemble the

investments in manufacturing buildings and machinery, but here the resemblance ceases. The typical manufacturing industry buys its raw materials currently, while the lumbering industry, in many cases, has investments of great magnitude in its raw materials, the forest. Where, as is sometimes the case, a saw mill buys its logs, its financial problems in connection with raw materials are simplified since the financial burden of carrying interest charges and taxes on the raw material falls on the logging company if it owns the forest in which it operates, or largely upon the independent land owner if the logging company buys its stumpage in small current amounts. Under these circumstances, the saw milling industry, in so far as raw material is concerned, has financial problems similar to those of ordinary manufacturing enterprises.

The burden of carrying costly investments in timber lands has given a measure of financial instability to the lumber industry. High carrying costs in the form of interest and taxes which must be met regardless of the production of lumber, together with the heavy depreciation of idle plant, have frequently forced the continuance of production when demand has slackened. This pressure for continued production has contributed to sharp lumber price fluctuations and has resulted, since costs are much more stable than prices, in great variations in the profits of lumber enterprises. In fact, lumber prices have been at times well below production costs and have so continued for considerable periods of time. The burden of carrying timber investments has at times been productive of the wasteful exploitation of our forests since it has resulted in a cut bearing little relation to the needs of the country.

Generally speaking, the past few years have witnessed an increase in the financial strength of the lumber industry, partly as a result of the relatively high prices received and partly through a growing appreciation of the necessity for the application of better business practices in the industry. Prices

and profits are, however, likely to fluctuate widely so long as the larger operators must meet the competition of the large number of small operators, and so long as the productive capacity of our lumber operations exceeds the normal demands of the market.

A distinctive phase of the financing of lumbering operations is to be found in the thinly timbered areas of the South where many small mills are operating on scattered stands. Such mills are financed largely by wholesalers and planing mill operators. It has been estimated that there are more than a thousand Fordson tractor mills operating in southern pine regions. Financial assistance varies from the occasional small loan to a full investment in timber, plant, and payroll. As a result of their financial dependence, few of the small mills are in a position to sell their output free from the dictation of the financiers.

Irregularity of Operation.—Logging operations in the northeastern states and in the Lake states as well are, in the main, confined to the winter months. Originally logs were sledded to the watercourses and transported to the mills in log drives during the spring floods. Winter hauling on the snow in combination with water transportation furnished, and in many cases continues to furnish, the most economical transportation possible. In the southern pine and cypress forests, on the other hand, logging operations continue throughout the year as a result of the mild climate. In the Pacific Coast forests also, climatic conditions, although not of the best, permit year round operations.

In addition to the plant idleness resulting from seasonal logging, both the logging and sawmilling businesses are subject to periodic fluctuations in activity as a result of sharp fluctuations in the demand for lumber and lumber products. The volume of building construction varies widely from season to season and from year to year. In the case of the West Coast lumber industry, the volume of production sometimes changes

as much as 50 per cent within a single year, while other lumbering sections are also subjected to sharp fluctuations in activity.

Labor Conditions in the Industry.—Labor conditions in the lumber industry contrast strikingly with those in agricultural industry. Agricultural labor is largely American and the workers are employed in small groups or singly. Perhaps the most characteristic labor grouping in agricultural production is the farm family. The lumber industry, on the other hand, uses a large number of foreign racial elements and the workers are employed in much larger groups.

The racial elements and nationalities employed in the lumbering industry vary with the different producing regions. In the New England forests 40 per cent of the workers are Americans either by birth or naturalization, while Canadians, Finns, Poles, Russians, and Austrians, make up the bulk of the remainder. In the forests of Minnesota and Michigan, Finns and Scandinavians are in the majority. In the southern forests the great majority of the workers are negroes, and the remainder mainly native-born whites. Native-born whites constitute a majority of the workers in the central hardwood regions and in the forests of the Pacific Coast.

The isolation of the lumber industry together with its shifting and temporary character cuts off many of the workers from normal family life. Housing, in connection with logging operations, is ordinarily provided by the logging company, and since most of our logging operations have a limited life, living accommodations are of a temporary character and correspondingly crude. School facilities are frequently lacking, and in many of our logging camps the company "bunk" house is a characteristic institution. Winter logging in the northeastern and Lake forest regions discourages family life in the camps, while the isolation of northwestern lumbering operations is productive of conditions detrimental to the existence of any normal family life for the workers. In the southern forest

regions year round operations permit a considerable number of workers to enjoy the company of their families. Many southern lumber operators, because of the simple tastes and needs of their negro workers, have built crude houses for the accommodation of the workers and their families.

Irregularity of employment, the isolation referred to above, and other hardships incident to the life of the logging worker have resulted in the industry being dependent in a measure upon the casual migratory worker who drifts in and out of the lumber camps, supplementing his work in the lumber industry with jobs in connection with the agricultural harvest, or with mining operations. The typical lumberjack, while confining himself to the lumber industry, expresses his dissatisfaction and unrest by drifting from camp to camp, and frequently in the Pacific Northwest by affiliation with some radical labor organization.

An interesting supplement to the labor supply in the logging camps and saw mills is to be found, particularly in the northeastern, Lake states and the northwestern forest regions, in agricultural settlers who work for the lumber companies a part of the year in order to supplement their incomes until such a time as their farms are cleared and stocked and have become productive. In fact, lumber companies sometimes guarantee employment to settlers who buy cleared land from the lumber company. In some parts of the Pacific Northwest "stump farmers," as they are called, constitute a substantial portion of the lumber workers. The stump farmers must usually find employment close to their farms. As a result they are not so free to move when conditions in the lumber camps do not please them, and their dependence upon the lumber industry for a supplementary income makes them less susceptible than the ordinary lumberjacks to the appeals of radical labor organizations.

Reforestation and careful cutting, by insuring the permanence of lumbering operations in our forested regions, would

do much to improve the conditions of the workers. Permanence of cutting and milling operations would encourage the construction of better houses, the development of schools and other community institutions, and the raising of the standard of living.

Labor Organizations.—In the Pacific Northwest conditions have encouraged the development of organizations of the workers, and the region has been the scene of many bitterly fought strikes. Here the Industrial Workers of the World [3] have firmly entrenched themselves and preach their frankly revolutionary doctrines to the workers. Briefly, the I. W. W. propose the abolition of the so-called capitalistic system, the deposition of the employer, and the ownership and management by the workers of the machinery of production and distribution.

The Timber Worker's Union, affiliated with the American Federation of Labor, is another type of labor organization found in the Pacific Northwest. Unlike the I. W. W., the Timber Worker's Union is in its objects similar to the typical trade-union in that it seeks to improve the conditions of labor while perpetuating the present industrial order.

During the World War, strikes of lumber workers in the Northwest seriously interfered with the production of wood for war materials, and as a result the federal government encouraged the development of an organization called the Loyal Legion of Loggers and Lumbermen, an organization built on a patriotic foundation and one which has persisted to the present time. The Loyal Legion, through the promotion of collective bargaining, has assisted in the improvement of labor conditions in the industry and has been a force in effecting a reduction of the hours of labor in the Northwest from 10 to 8, although a number of northwestern mills still operate on a 10-hour schedule. Both the Timber Worker's Union and the

[3] See Chapter XXI.

I. W. W. are antagonistic toward the Loyal Legion, the former because it regards the Loyal Legion as, in a measure at least, the tool of the employers, and the latter because it is frankly antagonistic to any program involving the perpetuation of the present industrial order.

Workers' cooperation has developed in the case of a number of West Coast shingle mills. These cooperative ventures have involved the taking over of the ownership and management of the mills by the workers. In almost every case the mills purchased and operated by the workers were in financial difficulties prior to their purchase by the workers and their financial status has encouraged their sale. A number of these cooperative mills have organized a common selling agency for the marketing of their output. Management problems in the cooperative mills have been simplified by the relatively small number of workers employed per mill. Cooperative mills, however, are a minor factor in the total shingle production of the region.

Forest Land Ownership.—In some of our forest regions there has been a remarkable concentration of timber ownership in relatively few hands. In 1910, for example, 15 owners controlled approximately one-half of the pulp wood of New England and a marked degree of concentration existed in the ownership of the timberlands of the Lake states. In the same year 14 owners controlled three-fifths of the cypress in Louisiana and 11 owners controlled one-half of the cypress in Florida. There has been little change in the ownership of cypress land since 1910. The limited supply of cypress, the high value of this timber, and the large investments required in operating plants have tended to keep the ownership in relatively few hands.

The southern pine area illustrates the increasing degree of ownership of high quality timber as the depletion of our forests continues. The South today contains 139,000,000,000

feet of virgin pine, controlled by 5,401 saw mills. It is estimated that the virgin pine timber remaining at the end of 20 years will be held by 45 mills. The ownership of second growth pine timber represents no such concentration as exists in the case of virgin stands, since much second growth is to be found in farm wood lots, on abandoned farms, etc.

Timberland ownership is less concentrated in the hardwood forests of the South than in any other important forest area. In Idaho, on the other hand, in 1910 ten owners held 64 per cent of the privately owned timber. With the exception of the Northern Pacific Railroad, the large holders show no tendency to break up or decrease the size of their properties. The cost of carrying timber for speculative purposes is, however, tending to put the timber holdings on an operating basis.

In Washington and Oregon in 1910 the Bureau of Corporations found striking examples of concentration in the ownership of timberlands. Eighty-three owners controlled 59.4 per cent of the privately held timber in the two states. Since 1910 two processes have been going on in this area, the one, the breaking up of very large properties, and the other the concentration of small properties. In many cases the breaking up of large properties has been stimulated by a slackening in the rate of increase in timberland values and the consequent discouragement of large speculative holdings. In other cases the sale of portions of large holdings has resulted from a necessity for reblocking holdings for economical lumbering operations. The concentration of small holdings is a result in part of the placing of the holdings on an operative basis. However, thousands of individual holdings of small acreages still exist in these states, and in many cases the owners are unable to sell to operators (logging companies) because of the inaccessibility of the holdings.

The timberlands of California, like those of Washington and Oregon, showed a tendency in 1910 towards a remarkable

concentration in ownership. Nearly 75 per cent of the privately owned timber in the state was in 39 holdings.

In all probability, taking the United States as a whole, the large companies are more important than the statistics of their holdings would seem to indicate, since they hold large acreages of the more accessible timber. Furthermore, it should be noted that concentration in ownership is more marked in those regions which still contain substantial stands of virgin timber.

Size of Lumber Mills.—Since there is a tendency to put timber lands on an operating basis, the regions where concentration in ownership of forest lands is most marked are, in the main, regions where large scale mill operations are found. In 1922, 89 per cent of the total cut of the state of Washington was made by class 5 mills.[4] In Oregon 85 per cent of the cut was made by class 5 mills, while in Louisiana class 5 mills accounted for 86 per cent of the cut, and in Mississippi for 70 per cent of the total cut. These four states together reported 46 per cent of the total lumber cut in the United States. Taking the United States as a whole of 13,166 active mills reporting in 1922, 814 mills cut 10,000,000 board feet or more per year each, and reported nearly 70 per cent of the total production of all mills in the United States.

The size of mill operations in a state such as New York contrasts strikingly with the size of mill operations in the four states mentioned above. Of 794 mills in New York state reporting in 1922, 720 cut from 50,000 to 499,000 board feet each, and only one mill reported a cut of 10,000,000 feet or more. In Louisiana on the other hand of 282 mills reporting, 108 cut 10,000,000 feet or more each.

Large mill operations are characteristic of regions of virgin timber, while regions of second growth or regions where farm wood lots constitute the source of supply are regions of small scale mill operations. Virgin timber stands, because of the

[4] Class 5 mills, according to the census classification, are those cutting 10,000,000 board feet or more each year.

quantity and concentration of timber, offer opportunities for the employment of machinery and equipment in logging and milling that cannot be profitably employed in regions of second growth or scattered timber supplies. The purchase and installation of such equipment represents substantial outlays and only large operators can afford such equipment. Moreover, regions of virgin stands are frequently so isolated as to force operators to assume heavy expenses for the development of transportation facilities, a task which only large operators can assume. For example, the logging of southern pine frequently involves the construction of a logging railroad with heavy investments in the way of mechanical skidders [5] and loaders. The exploitation of the Rocky Mountain forests frequently necessitates the construction of expensive flumes [6] to transport logs to the railroad or to the mill. In the Pacific Northwest the size of the timber forces the installation of expensive logging and sawing equipment, a necessity which contributes to the size of the operating unit. Furthermore, the isolation of many virgin timber stands calls for size in the exploiting organization since considerable capital may be required to provide housing for workers and to meet the marketing problems created by the long distance to market. It is also clear that large aggregations of capital have been quick to see the opportunity for profit offered by our stands of virgin timber. Large mills can rarely exist in a region of small second growth timber or in a region of small scattered stands, since the concentration of the necessary quantities of logs is practically impossible. As a result such areas are characterized by large numbers of small mills, which upon the exhaustion of the timber supplies of one locality, move on to another.

In spite of the pronounced concentration in the ownership of forest lands and the leading position of a relatively small num-

[5] A skidder is a machine to which is attached a drum and a cable which is used in dragging logs from the forest to the track.

[6] A flume is a trough-like device down which logs may be transported by water.

ber of larger mills in lumber production, there is no evidence that they constitute the basis for monopolistic control of general scope. Several factors limit the ability of the large operators to fix prices. In the first place the production capacity of American milling operations exceeds the normal demands of the market. Moreover, large numbers of small operators stand ready to increase materially the supply whenever lumber prices make substantial advances. Lumber prices, too, are limited somewhat by prices of competitive materials, such as steel, cement, clay products, etc. Moreover, the possibility of competition of one lumber producing section with another sets distinct limits to price advances.

Integration in the Lumber Industry.—It is a common practice for the company owning the saw mill to conduct its own logging operations, although in the northwestern fir region, for example, there are a large number of independent loggers who sell their logs in the open market. These independent loggers may either own timberlands or buy stumpage. As we have seen, many companies operating saw mills are also large timber owners, although they, like the independent loggers, may buy stumpage.

Some mills act as their own wholesalers, selling directly to retailers, while a few mills conduct retail lumber yards. In some cases large mills or groups of saw mills under the same financial control maintain their own lines of retail lumber yards or are financially associated with companies operating line-yard systems. A group of yellow pine manufacturers of North Carolina maintain a cooperative sales organization, while the Weyerhaeuser Forest Products Organization has organized the Weyerhaeuser Sales Company for the marketing of the output of a number of associated mill interests. Many small mills, particularly in the southern states, are grouped into relatively large marketing units by a single wholesaler who handles their products.

Trade Associations.—The lumber industry, like other branches of American industry, has developed numerous trade associations, such as the West Coast Lumberman's Association, and the Southern Pine Association. These associations have been instrumental in establishing grading rules and trade customs, in developing uniform accounting systems and in collecting and distributing information concerning lumber production shipments, orders, etc.[7]

Character of Ownership in the Lumber Industry.—Of the 32,568 establishments involving all branches of the lumber industry in 1919, 17,527 establishments were owned by individuals and 6,730 establishments were owned by corporations. Individually owned establishments, however, employed only 14.1 per cent of the average number of wage-earners in the industry and produced only 12.5 per cent of the value of products. Corporations employed 74.4 per cent of the average number of wage-earners in the industry and produced 76.9 per cent of the value of products.

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[7] See Chapter XXVII.

CHAPTER III

BUSINESS ASPECTS OF MINERAL INDUSTRIES

Introduction.—The previous chapter, in discussing the lumber industry, emphasized the fact that our timber reserves are disappearing and that the business men of the future will be faced with a serious problem, growing out of decreased supplies of saw timber. It was also shown that certain business aspects of the lumber industry are due to the fact that timber is a wasting asset. The different mineral industries, the business aspects of which form the subject matter of the present chapter, are like the lumber industry in that they are based on a wasting asset. It is true that in many cases our mineral reserves seem to be more adequate than do our supplies of saw timber but many aspects of the business management of mining enterprises are affected by the definite limitation of the supply of the raw product. Because of this fact and because of the relation of minerals to many of our principal industries, the student of business may well be interested in a discussion of certain of the business aspects of mining and of the actual and relative status of our country in the production of important minerals.

Minerals and Industry.—The United States is blessed with abundant and varied mineral resources to an extent not equalled by any other country. Practically all essential minerals are found in greater or less degree, and in only a few cases, as, for example, tin, potash, and certain special kinds of iron ore is it necessary to import minerals even in small quantities from abroad. This fortunate situation accounts in part for the industrial and manufacturing leadership of the United States in many lines, for modern industry uses as a part of its raw

materials a varied line of metals. Our mineral resources supply the raw materials for such important industries as steel manufacture, petroleum refining and distribution, and our ceramic manufactures contribute an essential part of the raw material used in buildings, bridges, and roads. Our unequalled coal and natural gas reserves have been an important factor in manufacturing development, for they have made cheap and efficient power available. Other minerals have an equally close relationship to industry as a whole.

Relation of Coal to Industry.—Because of the basic relationship of coal to manufacturing, transportation and heating, the problems of the coal industry are of primary importance to the student of business. The distillation of coal yields gas for lighting, cooking and heating, explosives, ammonia, analine dyes, and nearly 300 other products. Coke is essential for present practice in the smelting of iron ores and for the steel industry. About 60 per cent of coal mined goes for power, including transportation; about 12 per cent for coking and by-products; and 22 per cent goes for heating buildings. No satisfactory substitute has been developed for coal as a source of power, nor is there reason to believe that wood, electricity, or oil can ever satisfactorily take the place of coal; for our industrial nations have located their industries with relation to coal supply and have invested millions of dollars in equipment for its use as fuel. Any substitution of other fuels would therefore be accompanied by disorganization of industry and by the scrapping of millions of dollars' worth of equipment.

The United States leads the world in coal production and in reserves. All but 14 states have coal reserves and in most of these mining is conducted to some extent. Good reserves of the principal kinds of coal are present, and it is not likely that there will be a shortage of supply for many years with the possible exception of the better grades of coking coal and of

anthracite. Although the almost certain development of our manufacturing in the future will bring added demands for coal, present reserves seem to be adequate to meet the probable increase in consumption.

World Supplies of Coal.—The British Isles have about one-fortieth of the coal reserves of the world and now mine about one-fifth of the world's output, being second only to the United States in production. British coal is near the seaboard, and English exports of coal have been in the past six times that of any other country. About one-fourth of the coal exported is burned in ships. The English system of reserve supplies of coal for marine use covers the world and is far greater than that of any other country. English colonies, notably India, Australia, and South Africa, have important coal reserves. In addition, British capital controls important coal mines and reserves in other countries, especially in Siberia and in China.

Before the war, German production of coal was just less than that of Great Britain, being only a little less than 20 per cent of the total for the world. But the reversion of the Saar basin districts to France and the loss of commercial control of the Austrian fields, which Germany formerly held, have reduced its coal supply to a few small fields so that Germany cannot hope to be an important factor in the world's future coal trade. France was not self supporting before the war but now should be able to produce about as much as is consumed for all purposes. Exports from France will not be important. Italy has a poor supply of coal and in some years has imported as much as 10,000,000 tons from Great Britain alone. Russia ranks about fifth or sixth in coal resources. The industrial development which should take place in that country will stimulate production, but will probably not leave important amounts for export. Japan has in her own territory enough coal to allow some exports and considerable bunkering

of foreign ships. Her influence in China will make her an important factor in the oriental coal situation. Most of the other countries of the world have some coal mines and reserves, but the principal nations are as above discussed.

With the exception of the United States, China has the greatest coal reserves of any country, a large part of which are anthracite. Some Chinese districts export coal and some import it because of the lack of adequate transportation. China has allowed England, Germany, Belgium, and Japan to secure control of present mines to the extent that only one important coal producer is operated by Chinese capital, although native labor is used in the other mines. The peace settlement transferred important German rights to Japan so that there is a probability that that country may control the coal resources of China in the future. The political and commercial effect of such control may prove to be significant.

Iron.—Second only in importance to coal in the commercial development of any country are the reserves of iron. Cast and wrought iron and steel are basic in their relation to manufacturing and to building. Iron also is used in the manufacture of paints, in various chemical industries, in medicines, in coloring matter for glass and pottery, and for flux in the refining of silver, copper, and lead. Normally the world production of iron is around 80,000,000 tons, or about 95 per cent of the tonnage of all metals mined. Four countries supply most of this amount, viz., United States, Germany, France, and Great Britain.

More than two-fifths of the total is mined in the United States, and of this amount over 80 per cent comes from the Lake Superior district. Thus this one district produces about 30 per cent of all iron mined. Next in importance is the Alabama district. Other states, such as Pennsylvania, New York, New Jersey, and the certain western states, produce

smaller amounts, the importance of which is increased by their special qualities in some cases.

Foreign Producers of Iron.—Next to the United States in importance as iron producers have been Germany and France. About 80 per cent of the combined total of these two countries came from the Lorraine fields, which are now under the control of France. The war reduced Germany's reserves to about one-third of her former amount and hence she is now less important in iron production and reserves than either France or Great Britain.

Although British reserves have been greatly reduced by mining operations, the British Isles form the third most important district of iron production. There is still a considerable amount of first-class ore and much larger amounts of inferior ore, which may be made available either by improved processes or by the exhaustion of iron reserves in other countries which will make the use of this lower grade ore necessary. Spain has undeveloped iron reserves of considerable importance. Much of it is low in phosphorus and hence valuable for the Bessemer process of steel making. This is largely exported, over one hundred thousand tons having been sent to the United States in a single year. Swedish reserves are important measured by tonnage, but more so by the fact of their low phosphorus content. Chinese reserves have not been explored completely but are thought to be considerable. Cuba has important mines, as have Mexico and Canada. Most other countries have small but unimportant iron reserves, for iron is one of the most widely distributed elements and occurs to some extent in virtually all countries.

Reserves of Iron in the United States.—Reserves of high-grade ore in the United States are being depleted so rapidly that import from abroad will probably increase in the not far distant future. It is known that on the Pacific Coast large reserves are present which have been undeveloped because they

have been too far from coal. With possibilities of coal from Alaska and with increasing demands for iron and steel products in that section in the future, these Pacific Coast reserves will be developed, and may, with the probable exhaustion of the Lake Superior district, be very important. There is little reason to fear exhaustion of the iron reserves of the world in the near future, although so far as is now known the supply is so limited that ultimately there may be a serious question of supply.

Petroleum.—Modern demand for petroleum and its refined products is so great that the world situation is worthy of consideration. So wide-spread are the uses of petroleum that it has a vital relation to commercial well-being. Not only is it the base of the power used for internal combustion engines, but other uses are of equal importance. Every year sees more and more ships equipped with oil-burners. A considerable number of locomotives in the United States burn oil. Lubricants, moreover, are necessary wherever machinery is run. Kerosene, although of less importance than formerly, is still used for light by thousands of people. Road oils reduce the dust on thousands of miles of streets, while artificial asphalt preparations are used for paving both in the city and the country. Various minor uses such as ether for anesthetics and waxes from a paraffin base for surgical dressings and preservatives add to the commercial importance of the petroleum group of products.

Petroleum reserves of the United States seem to be as great as those of any other country, and at present the United States leads the world in the production and use of petroleum products. America has been supplying about two-thirds of the world's consumption of oil, from reserves which are estimated to be not over one-sixth of the total. In spite of these reserves one authority has estimated that if petroleum were substituted for coal in its various uses, our supply would be exhausted in

a little over nine years. Yet we are using crude oil more and more for locomotives and for ships, and for heating. Substitutes are of uncertain possibilities. Either the United States must look to foreign countries for its supply, it must conserve its present reserves, or it must develop satisfactory substitutes. Whatever is done, it is safe to predict that the consequent changes will have important business results.

Foreign Supplies of Petroleum.—Although oil reserves in British possessions are of little consequence, British capital is present wherever petroleum is found. For example, a British company has a concession covering most of the oil reserves in Persia, one of the promising fields of the future. British capital is entrenched in Venezuela and in Mexico as well as in Canada. British influence is felt in the oil fields of Russia. Political as well as commercial strategy has been of influence in these developments, and the extent of British penetration contrasts with the lack of foreign petroleum development by American Capital. As a matter of fact, the Dutch-Shell Company, one of the big factors in American domestic oil production and distribution, is in part at least British controlled. France has done little to assure a petroleum supply for itself, except perhaps in the Barbary states. For home use it is largely dependent on the Dutch-Shell Company. Germany has an inadequate supply, for German capital is of little influence in world petroleum except in Galicia and at home, where supplies are comparatively limited. Japan has done little in this direction but has been interested to some extent in oil investments in Mexico, China, and Russia.

Some authorities look to the Caribbean region as the chief field to be developed for the future production of petroleum. Mexico is now second to the United States in production and several South American countries have promising reserves. Russia is expected to become increasingly important. In addition to developing new fields in the future, it is expected that

improvements in the methods of refining will add to the life of our present reserves. It is also probable that improved gas engines will decrease the demand for gasoline and that more efficient methods of burning crude oil will help to conserve the supply. Oil shale will be developed as fast as methods are improved for its reduction. It may prove to be our principal source of supply, and may even be great enough to justify the further substitution of petroleum for coal, wood, and horses.

Copper.—Since 1890 the United States has been producing more copper than the rest of the world combined, the percentage of the total being over 60 per cent in recent years. American capital invested in mines in Mexico and in Chile adds enough to our domestic production to allow the United States to control something like three-fourths of the copper of the world. Principal copper producing states are Arizona, Montana, Utah, and Michigan. American reserves seem to be at least as great as those abroad, and hence our position in the world copper trade seems to be assured.

Other countries are of some importance in copper production. Canada has several mines and at least one large copper smelter. Cuba has two large mines. In Mexico, copper mines are owned by American, French, English, and German capital as well as by Mexican investors. Chile is important in the copper world and American capital in very influential in the development of this field. British and German capital is also invested, and it seems probable that these adequate supplies of capital will be combined with large natural reserves to make Chile second to the United States in copper production in the future. Peru, Bolivia, Argentina, and Venezuela are also copper producers of some importance. Africa has one large group of mines of commercial importance and a number of smaller mines. Japan has small mines in several sections of the country. China, which now produces only about 2,000 tons

a year, is believed to have considerable reserves, so far undeveloped because added production would affect the currency of the country. Spain, Norway and Sweden have some mines.

Miscellaneous Minerals.—Without detailed consideration, it may be said that the United States is lacking in its supply of but 7 of the 30 most important minerals. These are chromite, manganese, nickel, nitrates, platinum, potash, and tin. Were it economically necessary we could supply the need for nitrates and potash.[1] We are especially fortunate with regard to the distribution of most of the minerals; as shown above coal occurs in all but a few states, and other minerals are well situated with regard to demand. With a few exceptions cement can be profitably manufactured near most of the large cities, and it is the cities from which the greatest demand comes. Limestone is well distributed, although some sections or even states do not produce enough to supply local needs. Iron ore is not widely mined, but reserves not now used are present in many states and could be opened were it economically justifiable. The more valuable minerals, such as gold, silver, copper, lead, etc., are concentrated in the western states, but these ores, either semi-manufactured or untreated, are so valuable relative to their weight that they may be shipped wherever they are needed. The effect on the manufacturing and general industrial development of a widely distributed and almost complete supply of minerals cannot be over-emphasized.

Relation of Mineral Deposits to Manufacturing.—The presence or absence of adequate mineral resources has had much to do with the development of manufacturing industries in the different countries—for example, the early leadership of England among steel producing nations.

Political Consequences of Mineral Distribution.—More than one war has been fought for the control of mineral bearing

[1] Keir, "Industrial Organization," page 61.

territory. The Alsace-Lorraine territory was taken over by Germany as the principal fruit of the victory of the Franco-Prussian War. The Saar basin and its coal and iron reserves constituted one of the main factors to be considered in the settlement following the world war. Chile and Peru have had many disputes if not actual war over their common boundary, the exact position being important because of nitrate deposits. It has been asserted that American intervention in Mexico, actual or threatened, has been due in recent years to the desire to protect American mining investments in that country. Had the United States not assisted in the preservation of order, England would have stepped in; for her citizens had important investments in the mines which she sought to preserve. It is probable that if the history of secret diplomacy could be written, the influence of mineral deposits would be seen to have been one of the most important of all factors.

The Business of Mining

Effects of Location of Mines.—Mining as a whole has certain distinctive problems of management. A man wishing to engage in mining as a business must go where the minerals exist. Market considerations have little bearing on the location of this business. Possibilities of an adequate or trained labor supply have little bearing, for if the metals are present, the operator must pay enough to bring the labor to the mine. Individual preference as to the operation of a business in a small town or a large city has no bearing on the location of a mining enterprise, for these factors are all determined by the geological history of the region. Not only must the mine be located where the minerals are found, but subsidiary phases of the business must be located at the same place. Smelters are usually at or near the mines. Coal sorting or picking must be done at the mine mouth. Stone cutting is coming to be done at the quarry rather than at the building where the stone is to be used. Assaying is to some extent done at the mine.

The fact that the business of mining must be conducted where the raw materials are found has had important consequences. For example, high freight rates must be paid if the mine is distant from the market, whereas other industries for the most part would be located with reference to the market in order to reduce freight charges. Certain coal fields are operated only when there is a peak demand for coal, because of the relatively high freight charges which the companies in these fields must pay as a result of their distance from the market or of the lack of railroad competition. Many manufacturing establishments are located with reference to mineral locations rather than with reference to market or to labor supply. For example, the glass industry of the country is largely conducted in Ohio, Indiana, and adjacent states because of the presence of natural gas as a fuel. Ohio-made sewer and drain tile is shipped to many other states because of the presence of both good clay and natural gas in Ohio.

The location of the mining business makes labor supply problems complex. Many workers hesitate to go to remote locations, for they dislike either to take their families to such locations or to go without them. This tends to make the labor supply consist of unmarried men, often of the casual laborer type. Where the family is present, housing problems are often serious.

The frequent remoteness of the location of mining business has been in part responsible for abuse in the sale of fraudulent stock. Often prospective purchasers cannot inspect the property, and as a result many companies have been floated without even a shadow of a claim to producing properties. Had the investor been able to invest in enterprises at or near home, the abuses would not have been so easily perpetrated.

Risk a Factor in Mining.—Mining enterprises have as a whole been essentially speculative in nature. Investments made have not been without considerable risk. The simple fact that

ore reserves cannot be seen with the eye makes mining speculative. There cannot be the comparative certainty which there is in buying a piece of timber, a building, or a farm, where the essential elements of value can be definitely seen or determined. However, geologists and mining engineers have done much to lessen the uncertainty of mining. The federal government through the Bureau of Mines and especially through extensive geological surveys has removed much of the uncertainty by making surveys which show the geological history of mining areas and the conditions in these areas which make the presence of minerals probable or improbable. These surveys are only a general guide, but if they are followed by the careful investor, some of the uncertainty of mining investments may be eliminated.

Reductions of Mining Risk.—The science of mining engineering aids in the reduction of risk by providing efficient and scientific methods of developing mining properties. In many cases competent engineers can make a rather exact estimate of the cost of developing a mine to the production stage and of the cost of mining a ton of the mineral involved. Together with the geologists they can predict with remarkable accuracy the total tonnage which may be removed and the probable increasing costs, since mining becomes more costly with increased depth or when reserves are partially exhausted. Their estimates, however, often prove to be wrong because of conditions in the mine which could not be foreseen, or because the veins of minerals prove to be either less or more extensive than could be predicted in advance. Hence, even with all the aid of science and modern engineering, mining must remain a speculative industry at best. Investors in mining properties must take this into consideration and plan their financial operations in accordance.

Nature of Mining Dividends.—Mining, like lumbering, is an industry known to economists as one of wasting assets;

that is, the reserves are steadily being decreased as mining operations are conducted. Hence the investor in mining properties must recognize that the dividends which he receives from time to time must consist of three elements. A part of the dividend is composed of a partial return of the original investment which he has made, for sooner or later the mine will be exhausted and the investor's capital cannot be returned to him. Hence as he receives dividends he must recognize that they are in part a return of his capital. Just what part of the dividend is of this nature cannot be accurately determined, for the total return which will come from the mine cannot be predicted, nor can the life of the mine be exactly calculated in many cases. The second part of the dividend must be looked on as interest on the capital he has invested in the mine. Only the third part consists of profits due to a successful investment. In some cases this latter factor is by far the larger part of the dividend. In others the profit is small or sometimes non-existent. Any consideration of the financial phases of mining must keep these factors in mind.

The possibility that the third element in dividends—that of profits—may be very large is always present in mining enterprises and has had an important effect on the financing of the mining business. In every community there are people who are not content to accumulate a fortune by the slow and sure methods of investment in enterprises where profits are regular and fairly well assured, but where the possibility of large profits is negligible. They are open to the appeal of the stock salesman who pictures the large profits made in the past by the fortunate people who have invested a small amount of money in oil stock or in the stock of gold or copper mines. They feel, and they are assured by the salesmen that the feeling is justified, that there is no reason why they too cannot receive similar large returns from their investments if they invest in similar enterprises. They see no reason to be content with 6 per cent investments when much larger returns are possible.

Hence a continual flow of capital from investors who know nothing about the mining business is available for the development of new mines. Much of this capital is inevitably lost to the investor; indeed, for every successful investment in mining properties there have probably been a large number of people who have lost all that they put into mining stock.

One well known economist states that he suspects that all the gold which has ever been mined has been produced at a loss; by which he means that although a few investors and prospectors have made large returns from gold mines, the total amount of money put into prospecting for and developing unsuccessful as well as successful gold mines is larger than the total returns from all the mines. It is probable that in no other industry does an analogous situation exist. At any rate large amounts have been lost in mining because of the spectacular appeal of the industry. Yet had it not been for this appeal many if not most of the mines of the more valuable minerals would not have been developed and industry would be handicapped by the lack of their products.

Other Distinctive Features of the Mining Business.—Certain other features of mining as a business are distinctive. For example, methods of ownership of mining properties vary and are often unlike systems used in other industries. In earlier days and in pioneer communities today, taking up a mining claim was the most common method of securing ownership. Public lands were open to the prospector, who had the right to stake out a claim and to file on it at the federal land office. Subject to certain limitations such as the requirement of a certain amount of development work to be done yearly the property was secured free of charge by the prospector. Perhaps the majority of the mines other than those of coal, iron, and quarries passed into the hands of their owners in this way. But with the passing of most of the public land and with the development of the idea of the conservation of natural re-

sources applied to remaining lands, other systems have been developed. One of these is the lease system wherein the company seeking to operate a mine or oil well pays a definite set amount yearly to the federal government for the mineral rights on a tract of land. Other mines are operated on a royalty basis, whereby the company pays either a set amount per ton or per barrel to the government or an amount which varies with either the price or the quality of the product. Both of these systems are used by private land owners where it is desirable to lease lands to oil or mine prospectors for development or where limited capital for development leads the private land owner to contract with outside companies to develop his mineral reserves on a royalty basis. This latter system is quite common in the oil districts where farmers continue to farm the surface of their farms but arrange with oil prospectors to sink wells. Thus the farmer risks nothing but receives a small royalty on the oil which is produced if the project is successful.

Certain mines are operated very irregularly. Particularly is this true of bituminous coal mines in many sections which can be operated only with profit when coal is relatively high in price. The seasonal consumption of a large part of the coal makes it impossible to operate even the better coal mines every day of the year. The difficulty with which some mines can be furnished with a regular supply of cars for shipment of the coal causes them to be shut down a good many days even in the season of active demand for coal.

All these variations in operation affect the financial policy of the mining companies. For example, good financing is coming to dictate that reserves should be set up to cover periods of depression. That is, when coal is high and demand active, not all the profits should be paid out as dividends, but a portion should be held in a sinking fund or reserve fund and used for dividends when conditions make profits impossible. Mining in this respect is patterning after many progressive manufacturing and retailing firms which have adopted the same policy.

But many mines are still operated on the older basis with resulting large variations in dividends from year to year. This has limited their appeal to investors who are not forced to seek an investment which pays regular dividends each year.

Costs of Mining.—Variation between mines producing the same article is a characteristic of the mining business. Labor costs vary with the location of the mine according as it is isolated or in or near a city. Transportation costs vary greatly with the location of mines. Many mines are miles away from railroads and must haul their supplies over poor roads. A competing mine situated on or near a railroad has a distinct advantage in actual cost of production. Besides there are many differences in costs resulting from conditions in the mine itself. Ore may be easily separated from adjacent rock or this operation may be hard. The richness of ore varies greatly in different mines. Some mines flood easily and quickly while in others the pumping costs are low. Added depth adds to costs of mining. Thick veins can be mined for far less than thin veins. Should a mine be at disadvantage from all these and other points, it could not compete with more fortunate mines, but these costs in part balance each other. Yet there is a tremendous difference in costs of production of different mines producing the same metal. This difference accounts for the fact that some mines having good veins of ore may be idle while others with much poorer ore reserves are actively operating. Only when prices are high can the poorer mines in most mineral industries operate. When such is the case, the owners of the better mines secure large profits. Manufacturing and farming enterprises are carried with similar differences in costs of production, but probably the differences are not as extreme as in mining.

One further consequence of the difference in cost of production is the effect on irregularity of employment of the miners. Some of the effects of this irregularity of employment

were discussed above, but the effect on cost of the product to the ultimate consumer may be further emphasized. Idle men paid enough when they work to carry them a full year must increase the mining cost of each ton of coal or of ore, and thus increase the ultimate cost of the product. Capital invested in mine buildings and equipment and in the development of the mine itself is used but a part of the year, and hence the product must bear a higher charge for this investment. Idle mines require considerable expenditures to keep them in condition to resume mining, and these costs must be passed on to the product which is ultimately sold. These and other costs the result of irregularity of mining operations have operated to increase prices to the consumer and at the same time to reduce dividends to the owners of the properties.

Labor and Mining.—Irregularity of operation of certain types of mines, particularly those producing soft coal, affects the relation between the mining company and its laborers. Miners must be paid large enough wages during the days they are employed—often as few as one-half the days of the year—to allow them to support their families the entire year. This results in the payment of day or piece rate wages, which look large when compared with wages received by similar types of labor in other industries. Naturally many companies try to keep the wages as low as possible and strikes have frequently resulted. In a few cases these strikes have covered a territory large enough to restrict seriously the amount of coal available for the public. Public opinion has been aroused and has emphasized the semi-public character of the coal mining industry and what is frequently referred to as the obligation of the companies and the miners to give the public an uninterrupted supply of coal. Public commissions have attempted to arbitrate the disputes, and at times these commissions have had the authority of states or of the federal government. The effect of this idea of the relations of the coal min-

ing industry to the public has been to back the miners with the force of public opinion in dealing with their employers. Could irregularity of production be reduced by evening the peak demand for coal, or by better methods of storage, coal could be procured at a considerably lower cost per ton with resulting public and industrial benefit. Certain efforts are being made in this direction which may be successful.

Methods of Wage Payment.—Wage systems used in mining operations are not unlike those of other industries. In many mines the actual mining operations are done on a piece rate basis. Some of the miners receive a certain amount per ton for cutting or drilling operations, while others are paid by the ton for loading the minerals on the mine cars. Still others, such as the drivers of the mine cars, engineers and firemen, pump men, and other surface workers are in general paid by the day or month. Under pioneer conditions miners were often "grub staked"; that is, a partnership was formed wherein the prospector furnished the time and skill involved in locating a mine, while the other partner outfitted him with equipment and food. Profits, if any developed, were divided. But with the coming of more scientific mine locations and large-scale operations, that form of payment or division of the profits has virtually disappeared.

Miners Unions.—In general, miners are organized into unions. The American Federation of Miners and the Western Federation of Miners are each organized as industrial unions; that is, all workers of any type in or around the mine, regardless of the type of work they do,[2] are enrolled in one union rather than in separate unions organized on craft lines. Some districts have no form of union organization, this being due in part to the use of miners who do not readily form unions, such as southern negroes or some kinds of European immigrants. Some western mining districts have more members of

[2] See Chapter XXI.

the I. W. W. than of the more conservative union, the Western Federation. The unions have accomplished certain things for their members. Wages have been raised because of the massed strength of the workers presented through the unions, and in some cases hours of labor have been reduced. In certain districts the unions can be credited with the abolition of payment by means of company scrip, good only in company stores—a wage system which had no economic justification. In at least one well known case a union was able to lead its members in a successful fight for the abolition of most of the restrictions laid on the men by life in a company town. Economic independence was restored to the miners in this town through union activity. As a whole union influence has probably been good in the mining districts, although some of the indiscretions from which few unions are free have been present.

Size of the Business Unit.—No general statement on this subject can be made, for mining operations vary from the stone quarry or gravel pit operation as a side line by a farmer, or the small hillside wagon coal mine, to the copper or iron mines with thousands of employees. One man may pan gold or search for nuggets, while placer or deep pit gold mining may involve the investment of thousands of dollars. Millions have been invested in the Michigan copper mines, and in the very deep English coal mines. Likewise, smelters call for the investment of many thousands. Such companies as United States Steel Company or the Anaconda Copper Company or some of the large coal mining companies operate a business which compares in size with that conducted by the leaders in other lines. The determining factor in size of operations seems to be the location and depth of the vein being mined. Whatever the mineral involved, if it outcrops or is near the surface, small scale organization with a few workers may be used. If the mine is deep, as in the Michigan copper region, there must be sufficient returns to justify the employment of many workers.

Small veins, such as those of the hillside wagon coal mines, may be operated only when the price of the mineral justifies such operation; deep mines must be operated virtually all the time, for costs of pumping water, ventilation, and the upkeep of the overhead plant continues whether the mine is operating or not.

In some industries the larger mines have an advantage, for they can be operated relatively more cheaply than can smaller mines, which for a number of reasons are handicapped by the scale of their operations. This explains in part the continuous operation of large coal mines while numberless smaller mines are idle except when the price is high. One well known rock crushing company is able to ship its product a considerable distance and yet undersell smaller local competitors, for it is able to use machinery for many operations performed by hand in the smaller quarries. Transportation costs which would otherwise limit the territory into which crushed rock could be shipped are minimized by ownership of boats for hauling the rock, an arrangement made possible only by large-scale production.

Integration in Mine Ownership.—Consolidation of independent companies into larger units has made considerable headway in the mining industry. In some cases monopoly may have been the object sought while in others economy in either production or in selling has been responsible. Integration of manufacturing operations has caused the union of mining companies with other companies engaged in manufacturing. For example, in order to insure a steady supply of coal and to cut fuel costs, the Ford Motor Company took over the ownership of a group of Kentucky coal mines. The United States Steel Company soon after its organization secured control of a large part of the iron reserves as well as of the operating iron mines of the Lake Superior region, and operates such mines today either directly or through subsidiary com-

panies. Many if not most of the steel companies own limestone quarries. Railroads own gravel pits. A small group of eastern railroads operate most of the anthracite coal mines of Pennsylvania. Other railroads own and operate soft coal mines for their own use. Some of the gasoline distributing companies own oil wells, although in general little integration has taken place in this industry. Five groups of American capitalists control the copper production of this country, and some of these groups have interests in Mexican and South American copper mines. A leading American copper company recently took over one of the largest Chilean copper mines, and at the same time, this company, which already operated smelters, secured ownership of a large brass manufacturing company. For the larger operations the corporation is the only form of organization which can be used, but the thousands of small coal mines, stone quarries, and other small scale mining operations are owned by single proprietors or partnerships.

Wastes in Mining.—Science has done much to reduce mining wastes, yet there is a great field for the work of the geologist, the mining engineer, and the trained business man. Many such wastes have been due to carelessness. For example, one authority estimates that a flame which has been burning (near a natural gas well) continuously since the early days of the gas industry has consumed about $3,000,000 worth of natural gas at present prices. Yet travelers in gas regions are struck by continued wastes of this kind. Coal is left in the mine because veins get thin. It has been estimated that for every ton of anthracite coal mined two tons have been left in the mine, and that mining wastes as a whole reach to from 30 to 50 per cent of the value of the developed ore.[3] In no other industry would such wastes be tolerated. With their reduction or elimination will come reduced costs of mining which will tend to offset in

[3] Keir "Industrial Organization," page 74.

part the inevitable higher costs of minerals as present reserves become reduced.

Other wastes have been due to ignorance of proper methods to use in extracting mineral content from ores. In some cases piles of waste near mines are being reworked by new processes, and ore is being thus produced at a cost cheaper than that involved in extracting it from the vein. Science can help much in this way.

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CHAPTER IV

BUSINESS ASPECTS OF FISHING INDUSTRIES

Importance of the Industry.—In spite of the fact that the entire annual output of the American fisheries is frequently exceeded in value by the wheat crop of a single state, nevertheless the fishing industry is important to the student of business since such factors as the seasonal character of the business and the perishability of the products create special problems in idle capital, unemployment, marketing and in equipment and plant depreciation.

The Fisheries of the United States.—In 1922, the maritime fisheries of the United States employed approximately 150,000 workers, a number slightly less than the total employed in the slaughtering and meat packing industries. In addition to the persons engaged in the maritime fisheries, the fisheries of the Mississippi River and its tributaries and of the Great Lakes offer employment to additional thousands. The capital invested in the maritime fishing industry of the United States exceeds $100,000,000, and many additional millions are invested in the fisheries of the Great Lakes and of the Mississippi River and its tributaries. The sea yields to Alaska greater returns than all her land resources combined. In 1918 the value of her fishery products (mostly salmon) was, as prepared for market, nearly $60,000,000, and the census showed the existence of 135 canneries.

World Fisheries.—The world's greatest fishing regions consist of the banks [1] near the shores of Northeastern Asia, Northeastern North America and Northwestern Europe. The North Sea constitutes the world's greatest fishing grounds and

[1] Banks are relatively shallow areas in the sea on which fish congregate to feed.

furnishes a substantial food supply to a people whose per capita fish consumption is much greater than that of the people of the United States. The Japanese, who are credited with eating more fish than any other people in the world, dominate the fisheries of Northeastern Asia, and Japanese fisheries are said to employ over a million fishermen. The banks of Northeastern North America furnish the basis for great fishing interests in the United States and Canada, and European fishing fleets have long visited the Grand Banks of Newfoundland. Canadian fisheries yield an average annual product of about $55,000,000 in value and about one in every 100 persons in Canada is employed in some phase of the fishing industry. Canada exports about two-thirds of her catch, the United States being her best customer, although the United Kingdom is also a large buyer.

Fisheries Depletion.—Some of our fisheries are already becoming depleted as a result of unduly heavy fishing. The oyster catch of Maryland was about 2½ times as great in 1880 as in 1920, while in the same period the oyster catch of Virginia declined almost 50 per cent, and this in spite of attempts at oyster culture and the planting of oyster beds. The shad fisheries of our Eastern coast are menaced by a declining run, and salmon have practically disappeared from the rivers of our North Atlantic Coast. The banks fisheries are holding up well, the catch of the principal banks species such as cod, haddock, hake, etc., being limited largely by the capacity of the market.

The fisheries of the South Atlantic and Gulf states have developed very rapidly in recent years, the catch in the Gulf states, for example, having increased from something over 23,000,000 pounds in 1880 to about 130,000,000 pounds in 1918. In the South Atlantic states the catch increased from about 43,000,000 pounds in 1880 to over 166,000,000 pounds in 1918. There has also been a substantial increase in the out-

put of the fisheries of the Pacific Coast states in recent years.

Whaling, once an important fishery interest in the United States, is largely an industry of the past, having declined in importance very rapidly since 1860 when petroleum began to displace whale oil as an illuminant. Dundee, Scotland, and San Francisco are now the principal ports for the greatly diminished whaling industry.[2]

The Conservation of Fish.—The threatened extinction of some of our valuable food fishes together with the serious depletion of others has stimulated an interest in the conservation of our fish resources. The federal government, through the Bureau of Fisheries, and many states are engaged in studies of the measure of depletion of our fisheries, the causes, and possible remedies. The Division of Fish Culture of the United States Bureau of Fisheries operates 73 fish cultural stations, and during the years 1921 and 1922 the annual distribution of fish of all species and stages of development totaled approximately five billions. In addition to its propagation work the Division is engaged in fish rescue work mainly in the upper Mississippi River Valley, where, in 1922, 180,000,000 fish were rescued from ponds where they were carried by flood waters and where, having been left stranded by the receding waters, they would have perished but for the reclamation work of the Division.

An interesting phase of the contribution of science to industry is to be found in the efforts to perpetuate the supply of mussels in the streams of the upper Mississippi Valley. Pearl buttons to the value of about $7,000,000 are manufactured annually from these mussel shells. The growing scarcity of shells threatened the industry with extinction. Life cycle studies disclosed the fact that the young mussels during the first days of their lives are free swimming microscopic animals and attach themselves temporarily to the gills of certain fishes.

[2] The whale, although not a fish but a sea animal, a mammal, is normally considered in connection with the fishing industry.

As a result of the above studies, the reclamation work referred to above is being combined with an attempt to perpetuate the mussel supply in the following manner. The fish upon being reclaimed from the ponds and back waters are placed in tanks of water containing enormous numbers of microscopic mussels and after the mussels have had an opportunity of attaching themselves to their hosts, the fish are returned to the parent streams.

The Bureau of Fisheries is also attempting to perpetuate the salmon fisheries of the Pacific Coast by destroying natural enemies, by artificial propagation, and by limiting the catch. Many of our states foster their fish life by means of hatching operations and by seasonal and size restrictions upon the catch. The fur seal, once menaced with extinction by pelagic sealing,[3] has through the abolition of this type of sealing and careful regulation of the annual kill, been saved for future generations. The great majority of the fur seals of the world gather on the Pribilof Islands in Behring Sea where they are under the supervision of the United States Bureau of Fisheries.

The warm tropical waters contain an abundant fish life which is practically untouched and which promises a substantial addition to our food supply. The development of these fish resources waits upon the provision of adequate refrigeration, transportation, and market demand.

The Fishing Business

Location and Tansportation Costs.—The location of the fishing industry is naturally determined by the location of the fishing grounds and bears no necessary relation to the location of the market. Fortunately some of the world's greatest fishing grounds are comparatively close to the dense populations which the fisheries serve. The fishing grounds of the North

[3] Pelagic sealing involved the killing of fur seals at sea, and since the great majority of seals so killed sank and were lost and the seals were slaughtered regardless of sex or age, the practice threatened the extinction of the animal.

Sea are adjacent to the densely populated areas of Northwestern Europe, the fishing grounds of Northeastern Asia are readily accessible to the teeming millions of Japan, the fishing banks of Northeastern America permit of cheap transportation to our densely populated Atlantic seaboard, while the Great Lakes fisheries supply the considerable populations of adjacent areas. On the other hand the great salmon and halibut fisheries of the Pacific Northwest and Alaska are remote from their markets, and transportation costs take a heavy toll from the consumers of their product.

Perishability of Products and Transportation Costs.— The perishability of fish results in high transportation costs since both speed and refrigeration are necessary. Comparatively high prices for fish prevail in our interior regions and are partly responsible for our very small per capita consumption. Transportation costs on fish are also greatly increased by the fact that great quantities of fish are shipped in less than carload quantities at correspondingly high rates. Less than carload shipments, together with the necessity of reducing transportation time to the minimum, result in large use of express services in the transportation of fresh fish. In recent years, through the activities of freight forwarders, substantial savings in transportation costs have been effected. Through the activities of these forwarders, for example, small consignments of fish from Boston to New York and Philadelphia are collected and combined for shipment in carload lots. The shipments combined in a single car may be made by many different Boston shippers and may be consigned to many different New York buyers. The forwarder simply engages the car, and after loading ships it to his representative in New York who makes delivery of the different consignments. The forwarder makes his profit by buying transportation in car lots and transporting the fish for more than the car lot rate, but at a rate somewhat lower than the less than car lot rate. The shippers

profit by the more rapid transit offered in the case of carload shipments and in the saving in transportation costs, which in the case of the shipments referred to above is about one-half the difference between the cost of less than car lot shipments and car lot shipments. It is probable that the success of this development will result in a considerable extension of similar activities by forwarders in other sections.

The perishability of fish has resulted in extensive canning, drying, salting, and smoking industries. Much of the Newfoundland cod goes to the markets as a salt product, while the bulk of the salmon catch of the Northwest finds its way into cans. In recent years great quantities of oysters have been canned in the Chesapeake Bay region and an increasing quantity of shrimp, crabs, and tuna fish are being canned.

Capital Costs.—Depreciation and losses of equipment are substantial elements in the cost of operation of our fisheries. Nets, which represent a substantial part of the capital investment in fisheries such as those of our Great Lakes, rot very quickly and are frequently lost as the result of storms and ice. In fact nets are so great a factor in costs in the Great Lakes fisheries that little fishing is done in the summer months because of the rapid rotting of the nets and also because the catch would be lighter than in the spring and fall months when fish move more freely. Boats and other gear are also subject to considerable depreciation and loss.

Capital costs for the industry are increased by the seasonal character of a part of the industry. Of all our fisheries the cod, haddock, and hake fisheries of the North Atlantic coast are probably as little seasonal in character as any, such fluctuations in catch as do occur being, in large part, a product of fluctuations in the demand both for storage and for current consumption. In contrast with the year-round operation of the bank fisheries, such fisheries as those engaged in taking shad and salmon are distinctly seasonal in character. As a

result, investments in boats, nets, and other fishing gear and, in the case of the salmon industry, large investments in canneries, represent capital idle for the greater part of the year. In the case of the Great Lakes fisheries, the bulk of the equipment used in taking fish is employed less than six months a year, while the oyster fisheries are limited by the perishability of their product to about eight months of major operations.

Financing Fishing Operations.—In many instances the interests engaged in fishing are financed by the firms engaged in the preparation and distribution of the products. In the case of the salmon fisheries of the Pacific Coast the canning companies frequently supply the fishermen with boats, gear, and supplies. In many cases, fishing interests make contracts for the sale of a season's catch with canners or distributing companies, and the assurance of a market for the catch simplifies somewhat the financing of operations by encouraging bankers to make loans.

The financing of fish canning operations is facilitated by the practice of selling futures in canned goods. Under this practice, canners of fishing products contract in advance for the sale of a part or all of the anticipated pack. Sometimes the contract provides for the sale at a price fixed at the time when the contract is made, while in other cases the contract provides for purchases by distributing organizations at the market prices prevailing at the time of delivery. In either case the assurance of marketing the output encourages bankers to make advances for the financing of the season's operations. In some cases distributing organizations lend financial assistance to canning interests.

Labor Problems.—The methods of compensating workers in the fishing industries vary with the type of fishery and with localities. Frequently workers receive, in addition to a fixed wage, a bonus in the form of a share of the value of the catch.

In the New England fisheries, the men on steam otter trawlers receive wages and a bonus and are paid at the end of each trip. On vessels engaged in the trawl-line [4] fishery, the men work on what is termed a "lay," or on shares. The owners pay all expenses for vessel upkeep, insurance, etc. The share taken by the vessel owners is one-fifth or one-fourth of the gross catch, out of which they must share with the workers the expense for loss of fishing apparatus and contribute a portion of their share to the captain. Often after all deductions for loss of fishing apparatus, vessel's share, captain's share, other officers' shares, and expenses for food, gasoline, ice, bait, etc., are met the remainder is divided equally among the members of the crew. In the shore fisheries, sometimes the men work for straight wages and sometimes they work on shares. Share wages and bonus systems result in somewhat irregular earnings for many fishing workers, but the dependence of a worker's earnings upon the success of his efforts is a valuable incentive, and when the catch is good and prices for fish are high, the workers may receive very good wages.

In the case of the vessel fisheries, since workers are paid at the end of each trip, the interval between the receipt of income varies considerably inasmuch as vessels do not ordinarily make port until they have a full catch. In some cases, such as the vessel fisheries of New England, the labor is drawn to a large extent from those of foreign birth. In the salmon canneries many orientals are employed.

Seasonal fisheries, such as the salmon fisheries, offer only seasonal employment, and cannery workers are usually made up of casuals who must find other employment for the remainder of the year. In the case of certain seasonal fisheries, such as those of the Great Lakes, considerable employment is offered the workers in the off seasons in the repair of fishing apparatus, the tarring of nets, etc.

[4] A trawl is a line several hundred yards in length carrying a large number of hooks.

Fishing constitutes a hazardous employment particularly in the case of the banks fisheries where fogs together with the fact that the banks are traversed by the transatlantic liners result in much loss of life. Fogs result in dory [5] fishermen being separated from their vessels and drifting out to sea to perish and increases the chance of dories or vessels being run down by liners.

Size and Form of the Business Unit.—The size of the business unit varies considerably and is affected in part by the type of fishery. In the case of the banks fisheries the employment of steamboats or sail boats of some size, together with the necessary gear, calls for a business unit of considerable size, and the corporate form of business organization is common. In the case of the shore fisheries, smaller investments suffice, and since the business unit may be correspondingly small, the sole proprietorship and the partnership are common forms of organization. In many cases there has been a tendency for firms engaged in distributing fishery products to undertake also the fishing end of the business. In the Great Lakes fisheries, for example, the wholesale fish distributing companies with headquarters in the lake cities are frequently engaged in the fishing business as well. It is probable that this combination of fishing and distribution is on the increase in the Great Lakes fisheries. The uncertainties as to the catch, the fluctuations in prices, and the frequent heavy losses of fishing equipment are probably discouraging the small independent Great Lakes fishermen to some extent and encouraging the absorption of the fishing business by the larger and stronger distributive interests. In the case of the fish canning business, especially salmon canning, there has been a tendency in the direction of control by large distributors who frequently market under their own brands the output of the canneries which they control.

[5] Dory is a type of small boat much in use in the bank fisheries and from which much actual fishing is done.

Marketing Fishing Products.—The cost of marketing fresh fishery products is increased by their perishability and by the fact that religious considerations encourage the consumption of fish on a single day in the week. Retailers of other food products therefore handle fish with some reluctance and carry-overs of fish from one week to another and heavy losses through spoilage are of frequent occurence in their retail distribution. The majority of the retailers handling fresh fish are engaged primarily in the distribution of other food products. On the other hand, wholesalers of fresh and frozen fish frequently confine themselves to the single line.

Developments in the field of refrigeration have aided in stabilizing the fishing industries not only through widening the market territorially, but also through extending the seasons of consumption and thereby lessening the possibilities of serious gluts in the market. Refrigeration has been especially valuable in the handling of those species of fish which are caught only in certain seasons. Refrigeration enables the people of the Middle West to enjoy Great Lakes fish throughout the twelve months of the year.

With the exception of canned, dried, and salted fish, the character of fishery products has resulted in little advertising and in practically no sale under brands. The consumer normally buys fresh fish without any knowledge as to the firm which packs the product. The development of the seal pack oyster constitutes a conspicuous exception to the normal situation. Here, as a result of the invention of an unique refrigerating container, we have the marketing of oysters under brand.

Conclusion.—Fishing industries are relatively less important today than in earlier times when poverty was more widespread and the state of development of agriculture created a scarcity of food, particularly of meats. With the increase in the world's population, however, and the possible future scarcity of food, the fisheries may take on a new importance.

Developments in refrigeration and transportation may make it possible to tap the great fish resources of tropical waters and scientific conservation may preserve for our use a great food resource.

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CHAPTER V

INDUSTRIAL DEVELOPMENT

Introduction.—Preceding chapters have shown something of the importance of and some of the more important business aspects of the extractive industries or that group of industries which produces our food stuffs and the raw material upon which our manufacturing industries depend. Before considering the business of manufacturing or preparing these materials for the market it is essential that we gain such a knowledge of industrial development as will enable us to understand the problems of the modern manufacturer. Many of the most significant problems facing the manufacturer of today, such as the labor problem, have had their origin in the condition of earlier manufacturing and many of our modern institutions have had their beginnings in the less complex industrial society of earlier times.

Primitive Manufacturing.—The beginnings of industry are hidden in the mists of antiquity. The manufactures of prehistoric peoples consisted of crude implements of war, tools and weapons used in hunting and in fishing, household articles such as pottery, articles of personal adornment, etc. They represent in the main the products of time not devoted to hunting, fishing, warfare and primitive agriculture. In all probability practically every one spent a part of his time in the production of crude manufactures.

Manufacturing was largely for the manufacturer's own use, as contrasted with production for a market, and so long as he manufactured for his own use he could devote but a part of his time to this occupation. Specialization of individuals in the production of particular articles waited upon the develop-

ment of a market which could absorb the individual's surplus, and by so doing furnish him through exchange with the necessities of life. In fact, manufacturing in anything like the present form did not appear until the development of a special class of traders and merchants studied existing wants, and inspired new wants by developing the market for manufactures.

Early Commerce and Manufacturing.—Early commerce, moreover, found great obstacles to overcome in the suspicions of men and in their reluctance to carry on trade with men of another tribe or race. In fact, men long relied on war to furnish by seizure rather than upon trade to supply those things which they themselves did not produce. It required centuries of experience to teach men to satisfy their wants by exchange. In addition to suspicion, certain physical obstacles placed distinct limitations on the volume of early trade. In earlier times transportation was both costly and dangerous. Risks of loss at the hands of robbers and public enemies were great, and restrictions upon trade of a political character were also common.

If we turn to a study of the manufactures of particular peoples in early days we find that the Egyptians had developed a considerable civilization as early as 3,000 years before Christ, and that while they were not a great commercial people they had developed great efficiency in the industrial arts. By 1000 B. C. the Phoenicians had established regular commerce with Greece, and the articles entering into the trade, such as glass, metal ware, and purple dye reflect the nature of their manufactures. The Greeks, favored as they were by their location, early developed a large commerce, which furnished the basis for considerable manufactures.

Roman Contribution to Manufacturing.—Rome's contributions to the development of manufacturing lie in the stimulation of manufacturing resulting from the establishment of law and order in the conquered provinces rather than in

the development of any considerable manufactures in Rome itself. Commerce and manufacturing were also stimulated by the construction of the Roman military roads. Under 500 years of Roman rule great changes occurred in the provinces of the West (modern Spain, France, England). Cities and large landed estates grew up, formed centers of industry, and exchanged manufactured products for the raw materials of the surrounding country. In the East, Alexandria and Antioch developed as great markets for Oriental wares from India and China, a circumstance which indicates the development of considerable manufacturing in these countries.

It should be noted, however, that throughout the period of Roman rule, progress in manufacturing and commerce was slow, transportation was costly, and the total volume of trade relatively small. The great mass of the people lived by agriculture, producing things needed for their own use and a small surplus for the Roman tax gatherer.

Economic Effects of the Fall of Rome.—With the decline of Roman power, commerce and manufacturing received a serious setback. Roman culture disappeared and the obstacles to commerce increased rapidly. Brigandage and piracy became rampant, roads and bridges were neglected, and rivers became obstructed. With the breakdown of communication came a decline in the size and number of towns and in the power of the central governments. In France in the tenth century it is estimated that the growing isolation of communities had resulted in the development of more than 10,000 little local governments, each presided over by an individual who was but nominally subject to the central government.

Economic life in the centuries immediately following the decline of Roman power was organized on a system which enabled people to support life with little trade. People were isolated in little villages often of fewer than 100 persons and each village, forced by the uncertainty and expense of trade,

tried to produce all that it needed. The people lived mainly by agriculture. Furniture and implements were made at home. Nearly every village had a mill, usually run by water power, for grinding its meal or flour. Some villages had a smith or a carpenter but in the main there were few artisans who devoted all their time to manufacturing. Such manufacturing as was done was largely for the workers' own use or for a purely local market. Commerce, like manufacturing, was still in the main small and local and distant commerce was largely limited to luxuries for the consumption of the rich.

After the year 1000, Europe began to recover from the decline which attended the fall of Rome and advanced rapidly in economic and political organization. With the reawakening came the development of numerous towns and a rapid increase in their population. The growth of the towns meant a larger market and one sufficient to support a number of specialists. In the later Middle Ages—after 1200 or so—manufacturing became a business to which many men devoted most of their time and as a result they became more efficient. Specialization also encouraged the development and use of tools in manufacturing, which contributed to the quantity and quality produced. New crafts or trades developed in the towns, which could soon boast of butchers, bakers, brewers, blacksmiths, goldsmiths, copper smelters, masons, carpenters, cabinet makers, wheelwrights, tanners, shoemakers, weavers, dyers, tailors, etc.

Merchant Gilds.—With this new development of towns there came into existence organizations of those engaging in trade and manufacture known as merchant gilds. Inasmuch as every master craftsman was a merchant in that he bought raw materials and sold his products in his shop or at his stall, it was natural enough that craftsmen constituted, in all probability, the majority of the membership of the merchant gilds. The membership of these gilds, like that of the modern chamber of commerce, was made up of business men following a wide

variety of occupations. The merchant gilds had religious as well as commercial activities and were, in the case of traveling merchants, organized for defense. The functions of these organizations were numerous, and they had practically a monopoly control of manufacturing and selling in the town, as foreigners (people from without the town) could trade in the town only on the conditions prescribed by the gilds. The merchant gilds also laid down the rules and laws for trade among their own members. They looked after the interests of consumers by requiring of their members full weights and measures. Their activities also involved many social and philanthropic functions. In many cases these merchant gilds assumed powers and functions that we think of as constituting the proper province of municipal government.

Craft Gilds.—Shortly after the development of the merchant gilds, the expansion of trade and the increase in the number of crafts and craftsmen led to the development of craft gilds as distinct from the merchant gilds. The craft gild included in its membership only the representatives of a particular craft or trade. In general, the craft gilds took over much of the power and responsibility of the merchant gilds, and as new industries arose the craft gilds increased in numbers. The gilds had a practical monopoly of the production and sale of the products of the craft, since in many communities gild membership was a requirement for the practice of a craft. Not everyone was admitted to membership for certain admission requirements were prescribed. The eldest son of a gild member usually inherited the right of membership, while all others were admitted to membership only upon the payment of an initiation fee and the serving of an apprenticeship. In the earlier days, the craft gilds admitted people to membership rather freely and class distinctions were unimportant, but in the later Middle Ages, onerous restrictions and limitations were placed upon membership and these brought important results.

The craft gilds succeeded to many of the social and religious activities of the merchant gilds as well as to their business functions. Gild regulations aimed at the prevention of frauds and the observance of certain standards of size and quality in the wares produced, fixed the conditions of sale, regulated the terms, conditions, and standards of work, and prescribed the conditions of apprenticeship in the craft. Public authorities granted monopoly privileges and what seem to us unusual powers to the gilds because such an organized control of industry promised better work and better products.

Manufacturing Under the Gild System.—Manufacturing conditions under the gild system had many interesting points of contrast with present day manufacturing. Under this handicraft system the scale of manufacturing operations was very small. The master craftsman might work alone, although he was generally assisted by members of his family, and sometimes employed one or more journeymen (workmen who had completed their apprenticeship training but who for one reason or another were not in a position to set up a shop for themselves) and one or more apprentices. The master craftsman of the Middle Ages bore certain resemblances to the custom tailor, the blacksmith, and the shoe cobbler of today, although his entire economic and social environment was radically different.

The master sometimes worked up raw materials which were furnished by the customer into the finished product. In some cases he raised his own raw materials on his own land, although he frequently relied upon purchase in the market to supply the necessary materials. His work was usually done in his own home with the aid of very simple tools. He disposed of his product either by making it to order or by selling it either in his shop or in the town market. His position was obviously very different from that of the modern wage earner, who owns neither the machinery nor the materials with which he works, whose work is done outside the home in a factory, and whose

hours of work and working conditions are, in large measure, beyond his control.

Labor Under the Gild System.—The journeyman's position was unlike that of the modern wage earner in that the former might hope and rather confidently expect to acquire the small capital necessary to set himself up as a master workman, while the latter in the majority of cases has slight hope of ever obtaining the large amount of capital necessary to establish his own business. The outlook of the two, naturally enough, is in strong contrast. The medieval journeyman with his expectation of acquiring an independent business lacked the class consciousness of the modern workman. He was, through his residence in the home of his employer and through the smallness of the business unit, entirely familiar with the problems of the master, and the democratic relationship between master and employee produced a common viewpoint and prevented the radical differences of outlook which characterize employer and employee today who, separated as they frequently are by great economic and social differences, see things from distinct class points of view.

The training of workers under the gild system was accomplished by means of an apprenticeship system under which the apprentice became practically a member of the master's family. He lived in the master's home and it became the master's obligation to see that the apprentice was properly instructed in the craft. The apprentice in turn was obliged to serve the master in any lawful or honorable way commanded by the latter. The apprenticeship usually lasted seven years and since the shop was small, the system offered facilities for effective training. At the end of the apprenticeship the candidate was frequently subject to an examination and often required by gild regulations to complete satisfactorily a piece of work which would test his craftsmanship.

Commercial Development and Manufacturing.—As we have seen, the commerce of the early Middle Ages was seriously impaired by the confusion following the decline and ultimate disappearance of Roman authority. Ships were small and the lack of knowledge of navigation limited them to short shore voyages. Bad roads, piracy on the sea and brigandage on the land, together with heavy restrictions and tolls on trade, added to the hazards and costs of transportation. As a result commerce was limited in volume and distant commerce was confined to articles of luxury. These limitations upon commerce resulted in the great majority of manufacturers finding only a local market, and the scale of manufacturing and manufacturing development was circumscribed by the limitations of such a market.

After about 1300 the distances covered in sea voyages increased greatly and improvements in navigation decreased the hazards. Transportation costs declined and commerce received a great impetus; manufacturing naturally received a corresponding stimulation. Expenses and risks of transportation were great however, as compared with modern standards, and it is estimated that in the earlier years of the later Middle Ages, English wool transported to Florence, Italy, sold there for from two to twelve times as much as it brought at home.

Under the impetus to commerce resulting from the Western demand for the products of the East, the Italian cities in the later Middle Ages, particularly Venice, built up a great trade and the nature of their imports indicates substantial manufactures of silks, velvets, satins, fine cotton cloths, and fine linens, in Egypt, Syria, India, and other Eastern countries. Stimulated by their commerce, the Italian cities built up their own manufactures of glass, fine textiles, weapons, paper, etc., and before the end of the Middle Ages, Italian silk manufacturing had grown to the point where Italy was exporting silk textiles to the East.

Commercial Policies.—In the same period the rise in power of the central governments in countries like England and France resulted in the establishment of law and order and the development of national commercial policies which supplanted the commercial policies of the towns. Moreover, the same development resulted in some abatement of the tolls or taxes which had levied so heavy a tribute on earlier trade and which had as a result constituted an obstacle to manufacturing development. Although the trade restrictions imposed by the central governments worked an improvement over the earlier conflicting policies of hundreds of small jurisdictions, nevertheless they constituted in themselves substantial obstacles to the growth of trade and manufacture.

Manufacturing in Western Europe.—In the fourteenth and fifteenth centuries woolen manufacture in England and Flanders increased to the point where to an increasing extent cloth exports were supplanting the raw wool exports of earlier days.

In France, on the other hand, the manufactures which were flourishing in the early part of the fourteenth century received a severe set-back as a result of the Hundred Years' War (1336-1453). Gild abuses, such as restrictions on the use of machinery, limitation of the size of manufacturing establishments and jurisdictional disputes, interfered with the development of manufacturing. Moreover, the French government placed onerous restrictions upon manufacturers which minutely prescribed manufacturing processes, and the restrictions, together with unwise favoritism shown certain industries, combined to impede still further the development of French manufactures.

The manufacturing history of Germany in the later Middle Ages and early modern times duplicates in certain respects the French history of the period. Similar gild abuses, together with the trade restrictions resulting from the tariff barrier set

up by the multitude of petty states which made up the Germany of that day, tended to limit manufacturing development.

The end of the Middle Ages and the early modern period witnessed a relative decline in Italian manufactures. Italy, torn by dissensions between the states and weakened by lack of union, bad government and the aggression of other powers, found her manufactures reduced to a negligible status. Italian traders were unable to compete with those of the western countries, which had received so great an impetus during the period of discoveries through the discovery of an all-water route to the East.

In England, on the other hand, the separation from the turmoil and wars on the continent and the benefits contributed by her constitutional government and a decline in the power of the gilds, combined to promote rapid growth of manufacturing. By 1500 England had a substantial cloth manufacturing industry and from that time on English manufactures developed rapidly.

The Domestic System.—With the decline in gild powers in England, the more important industries passed into the stage known as the domestic system, an organization much more competent to meet the needs of manufactures based on wider markets and a growing division of labor within particular trades. Under the domestic system the work was still done by petty artisans working at home with their own tools. The ownership of the raw material, however, was vested in an employer, who assumed the risks of manufacture. In many respects manufacturing as practised under the domestic system closely resembled manufacturing under the handicraft system. As has been indicated, both were characterized by small-scale industry and small shops. In both cases industry was largely on a tool rather than on a machinery basis. Both involved few and simple manufacturing processes. Differences appear in a tendency toward a division of labor within the craft under the

domestic system which did not obtain at all under the handicraft system or else appeared in a lesser measure. A striking and most significant difference between the systems lies in the ownership of the raw materials and finished products by an employer under the domestic system whereas, under the handicraft system the craftsman ordinarily owned both the materials on which he worked and the product upon its completion. Here we have for the first time a separation, on any considerable scale, of the direction and risks of manufacturing and the actual conduct of manufacturing operations themselves. The employers were freed from the petty details of craftsmanship which had absorbed the attention and energies of master craftsman under the handicraft system and were free to study the needs of the market at home and abroad. The domestic system also marks the first substantial development of a wage system in manufacturing except in the case of journeymen.

Under the stimulus to manufacturing contributed by the domestic system and the general stimulation to English commerce and manufactures described above, England rose to a position of manufacturing and commercial leadership unequaled by any other power of early modern times.

Industry About 1750.—About the middle of the eighteenth century industry had changed little from the conditions of the domestic system. Workers, with few exceptions, were still in their own homes. Almost without exception the crude machines or tools used were operated by hand power. For example, the draft necessary to provide a flame hot enough to melt iron was created by bellows operated by hand power. Textile spinning machines were operated by foot power. The steam engine was not invented until 1769. Crude water wheels were about the only source of mechanical power. However, few machines which required mechanical power were used. The series of textile machines was not developed for another twenty years, nor had the charcoal method of melting iron been

developed to a scale where mechanical power was necessary for creating the forced draft. Transportation was largely confined to horse and ox-drawn vehicles, although canals were taking on some importance by this time. Capital was sufficient to carry on industry as then organized, and at times there was even a surplus seeking investment. In general, industry was very simply organized.

The Industrial Revolution.—Just at that time, however, the series of developments in industrial machinery, methods, and organization known as the Industrial Revolution, was about to bring changes which had not been equaled in previous history and which in importance have scarcely been equaled since.

The developed skill of the domestic system of industry combined with the English resources of coal, iron, and wool furnished a stimulus to world trade. English ships were already carrying foreign commerce to distant ports, and English merchants were starting the exchange of manufactured articles for raw materials which has been the basis of England's greatness in the commercial world. The demand for many of the products was greater than the supply, for compared with the later developments, systems of production were very slow and were inadequate to meet the new demands. Exporters attempted to stimulate production. Scientists, particularly those in the physical sciences, had already recognized certain principles which were later of considerable importance in the development of machine industry.

Important Inventions.—Stimulated by these conditions it was natural that inventions which would increase the scale of production would soon follow. The history of industry in general has shown that when a machine has been needed its invention has soon followed. For example, consider the textile industry—that form of manufacturing in which the events known as the Industrial Revolution first took place. Rapid production of textile products was impossible when all spin-

ning and weaving was done in the home with crude machines operated by hand or foot power. Spinning was done by the women in their own homes who there operated spinning wheels of the type used for centuries. Weaving was done by the men, but one good weaver could use the product of five or six spinners. In 1738 Kay invented the flying shuttle which made weaving more rapid and still further unbalanced the relation between spinning and weaving. Thread could not be spun rapidly enough to meet the demands of the weavers who were trying to meet the new demands of the export trade in woolen fabrics. But by 1764, Hargraves had given the world the spinning jenny which in its first form spun eight threads at once, but which was soon improved to a capacity of thirty threads.

Five years later water was used for power for the spinning jenny, and in another ten years the machine had been perfected in such a way as to make it possible to spin very fine threads. These fine threads made new fabrics possible with resulting stimulation of the export trade. Power had in the meantime been applied to the looms, and as a result the weaving was able to keep pace with spinning. Thus the textile industry was changed from a hand occupation to one using machines driven by water power, and later by steam power.

Effects of Use of the New Machines.—These new machines forced the introduction of the factory system into the textile industry for two reasons: (1) the machines were not only too large to be operated in the homes of the workers, but they required the use of water power; (2) the machines were too expensive for the ordinary artisan to own. Hence ownership passed into the hands of the capitalists, who set up machines where power was available and hired workers to operate them. Many of the machines could be operated by unskilled workers and some by women and children. The resulting disappearance of the advantage of acquired skill caused hardship throughout the textile districts until the weavers who had been

displaced by the power machines could adjust themselves to other occupations. Child labor was early introduced into the textile mills, for it was soon seen to be the cheapest form; and thus an evil arose which has not yet been entirely eliminated from industry.

Other inventions were not less important. Demand for wool stimulated the sheep industry and even made it necessary to import wool from abroad. Carding of wool soon became a machine operation. Printing from cylinders was introduced as were also chemical methods of dyeing and bleaching. Demand for cotton soon exceeded the supply, for the necessity of removing cotton seeds by hand labor limited the amount which could be raised on any one plantation. But the invention of the cotton gin by Whitney in 1792 removed this difficulty and soon the acreage of cotton sowed greatly increased. Just as it was feared that limited water power sites would hinder the growth of the textile manufacturing business in England, the steam engine, which had been invented in 1769, was perfected and made available for the factories.

The iron industry was similarly developed during the same period. Charcoal gave way to the use of coal in the small furnaces of the time, for the steam engine could be used to produce a draft strong enough to allow the use of coal. Coke, however, soon replaced coal, and this fact, together with the discovery of improved methods of treating molten iron, marked the beginnings of the steel industry. Coal mining had already been increased in scale and in cheapness by the use of steam driven pumps and by the invention of the miner's safety lamp.

Improvements in transportation methods during this same period contributed to the growth of the factory system. MacAdam gave his method of road building to the world in 1770. For some time coal was hauled from the mines to the factories over the macadam roads as well as by the use of the canals which were becoming important. But with the perfection of the locomotive and with better road beds coal hauling was

taken over by the railroads. Some progress was being made in deepening and in widening rivers and in uniting them by means of canals into complete transportation routes. The first transatlantic voyage by a steamship was made in 1819 a few years after Fulton's invention of the steam boat. As a result of the new method of ocean transportation both cotton and wool could be placed in England with greater safety and with greater speed. Improved transportation also helped in developing a market for the English blast furnaces and steel mills for it made the transportation of these products to distant markets more easy.

Effects of the Rise of the Factory System.—Development of the factory system had a number of important social, economic, and industrial effects. The bringing together of large numbers of workers in factories resulted in the development of a series of problems which have today been but partly solved. When the workers were in their own homes they worked as and when they saw fit. But employment in factories involved working a definite number of hours and starting and stopping when the employer dictated. Working days were commonly 12 or 14 hours and even 16 hours were not unknown. The recognition of the economy and desirability of a shorter working day came but slowly and led to much strife between employers and workers. Sanitary conditions, light and ventilation were very bad in the early factories. Children—often secured from among the town's paupers by contract with the town officials—were employed for tasks beyond their strength. Children as young as 6 years were forced to work 6½ days a week, being given Sunday afternoon for their formal education. The creation of a class of employers and a much larger class of employees brought about a class consciousness and a certain amount of strife which has not yet entirely disappeared.

The rise of factories at once brought about a demand for capital for use for buildings, for equipment, and for the pur-

chase of raw material. Idle capital was thus employed and savings were stimulated. The partnership and the joint-stock company formerly used for foreign trade and for shipping soon found a broader field. Banks grew in importance with the increased complexity of business relations. Shipping became still more important and made a greater contribution to the growth of English business as a whole. Development of land transportation stimulated many lines of production and created a need for a new class of workers.

The foreign trade of England was increased by the export of new products and by her greater ability to compete in the markets of the world. The foundation for the exchange of manufactured articles for raw materials, which has been the basis of England's commercial greatness, was well laid. All in all, the industrial revolution in England, and in other countries to which it soon spread, was the real beginning of industry and commerce as we know them today.

Early Manufacturing in the United States

Colonial Manufactures.—Contrasted with the rapid spread of the factory system in England after the fundamental inventions cited above had made it both necessary and possible, manufacturing in the United States developed but slowly. During the colonial period English restrictive acts of different sorts had made the development of manufacturing in the colonies impossible, for these acts virtually forbade the export of any finished products; hence the business of the colonies was that of the production and extraction of raw materials and the carrying on of fishing and shipping. But with independence came a desire to adopt the methods which were so greatly changing English industry. Capital, however, was scarce and little surplus was available for investment in new industries. Free or cheap land to the west attracted many who might otherwise have been available for factory employment. Their production

still further increased the raw material available for export. English policy had been expressed in laws which forbade the export of any of the textile or iron working machinery. The prohibition also extended to drawings of the machines; so when Samuel Slater, a young mechanic, decided to immigrate to America and there compete for a prize offered by one of the states for a successful textile machine, he was forced to depend on a mental picture of the spinning and weaving machines he had been using.

Early Textile Manufacturing.—Slater was successful in reproducing the machinery in use in England and started the first textile factory in this country at Pawtucket, Rhode Island, about 1790. Cotton manufacturing soon spread to other states, for Slater allowed other companies to use the machines he had designed. Soon after 1800 the modern concentration of textile manufacturing in the valley of the Merrimac river was begun by a factory at an important water falls in the river, and a village started which has developed into the modern city of Lowell. Other Massachusetts and New Hampshire towns took up the new industry, and for many years New England was almost alone in the production of cotton fabrics. Now the South is rapidly taking this leadership away from her. Cotton manufacturing was thus the earliest of our many factory industries, but even in New England it was carried on in a small way for many years. Other industries were adapted to factory production with some success, but the household and domestic systems of production were far more important than the factory system in most lines for a considerable period.

Early Iron Manufactures.—Iron manufacture was carried on in a small way in New England by the use of small local supplies of bog iron and with charcoal as a fuel. But not until coke was found to be the best fuel for iron smelting and large supplies of both coking coal and iron ore were discovered in adjacent regions in western Pennsylvania did the industry

really become important. Wood-working and paper mills were of some importance in New England, as were local flour and lumber mills in most parts of the country. But the scale of production was so small and the markets supplied so local that they can hardly be classed as factories. Sugar from the West Indies was refined in New England and rum was distilled, as were several kinds of fish oil. Hides were early brought to New England from various foreign ports and there tanned into leather. This in part accounts for the early leadership of this section in shoe making, but not until the invention of the sewing machine, about 1845, did the industry really become one of factory production. Other local industries were of some importance, but the United States was primarily engaged in agriculture, mining, lumbering and fishing until well into the middle of the last century.

The Industrial Revolution a Continuing Force.—Some writers on the Industrial Revolution have looked upon it as a series of events which affected English industry very suddenly, ran their course, and passed off the scene of action. Yet such was not the case. The inventions which gave rise to the so-called revolution were very crude and imperfect in the forms they first took. Not only have they been perfected to a stage where they are totally unlike their first form, but a whole series of additional inventions have been made in the years since the period commonly set aside as that of the Industrial Revolution. For example, little was known of the power of electricity in that period. Franklin had identified it, but its industrial and social significance was unknown. Since then it has been used to make modern communication possible. Transportation as at present organized could not be conducted without this force. Scarcely a factory exists not using it in some form. Yet the changes which have been wrought in industry by its application have come in the last 75 years and most of them in the last two decades.

Textile inventions have been made which, although they still use the fundamental ideas of early carding, ginning, spinning, and weaving machines, are so much more efficient that they make the older forms of the same machines almost unrecognizable. Steel making has become a complex process which provides steel for a number of varied uses. Beginning with the sewing machine, a large number of machines have been invented and used in shoe factories, but none of these machines were known during the period commonly known as the Industrial Revolution. Chemistry has given a thousand new industrial processes and hundreds of new products to the field of business. Canning, packing, and refrigeration have changed the nature of the diet of even the humblest working man. Other illustrations might be cited, but a general conclusion cannot be escaped; viz, that the forces set in motion by the fundamental inventions of the Industrial Revolution have continued to operate, and that we have a factory system of industry today which, although greatly different than that of earlier years, is but the logical outgrowth of the early inventions and those which have since been made.

Effects of Manufacturing Changes.—Industrial organization and methods have been continually changing. Great corporations with thousands of employees, in some cases, and with millions of dollars invested in plant and equipment have arisen to replace the small scale enterprises of early days. The factory processes have been found to be most efficient when operated on a large scale, and in some industries, such as steel making, small scale enterprise is impossible. Specialization of manufacture has become common. Markets are no longer confined to local areas but are country wide or world wide. The variety of articles manufactured today is so great that the average citizen is supplied with articles unthought of by his fathers. Manufacturing and distributive efficiency have combined to add to the total quantity as well as to the variety of consumption

goods. Machinery has become more productive because of better design and of specialization in use. Interchangeable parts have made machinery more efficient and have reduced loss from breakdowns and repairs. By-product utilization has laid the foundation for industries hardly second in importance to the primary industry itself. Without further illustration it may be concluded that industry is progressive and ever changing. It is always ready to replace old methods with those which promise greater efficiency. Partly because of this progressive spirit American manufacturing industries now lead the world, and the United States is the greatest manufacturing nation, measured by value of output, by capital, and by workers employed.

Effects of the Industrial Revolution on Labor.—The Industrial Revolution proper and the changes which have followed it in the last century and a half have had certain very definite effects on labor. Some of the consequences of taking the laborer from his home to the factory were suggested above. In general it may be said that most of the so-called labor problems of today are the outgrowth of the factory system. Perhaps the most striking characteristic of the factory system is the division of labor which is involved. Modern manufactured articles are no longer the product of the skill of a single worker but are rather the joint product of a dozen or a hundred workers. It is common for workers to operate a machine which turns out but one part of the finished product. Dozens of workers cooperate in the assembly of an automobile. Speed and skill have been gained by such subdivision, but a certain amount of the old time pride of craftsmanship has been sacrificed. Cheap types of labor are used for operations which formerly required skilled men. To a certain extent workers have lost their individuality and have become cogs in the machinery of production. Too many workers, as a result of feel-

ing their lack of independence and as a result of the absence of the stimulation of pride in their occupations, tend to watch the time clock too much and to put their attention on wage systems rather than on the acquirement of skill. These conditions, merely suggested here, are some of the results of the employment, in some instances, of thousands of workers in a single factory.

To meet these changed conditions and to make equality of bargaining power possible, labor unions have been developed. Their principal objective has centered around the reduction of the number of working hours, and the adjustment of wage schedules. Methods used to obtain these ends and some estimate of their success will be discussed in a later chapter, but let it be emphasized here that the fundamental reason for the existence of labor unions has been the need of organization to meet the problems growing out of the conditions surrounding factory employment of labor. Organization has spread to other fields of labor and to personal service, but the impetus for organization has come about as the result of the factory system of production.

Another result of the factory system may be found in a study of the proportion of the population of the different manufacturing countries engaged in labor off the farms and in the factories as compared with similar figures a few decades ago. With the increased use of machinery on the farm has come the opportunity to release farm laborers to meet the demand for laborers resulting from manufacturing development. Horse and gasoline power has been substituted for that of man in many operations, and the released workers have gone to the factories. This has built up great cities and has stopped the growth of population in many farming areas and population actually has decreased in some areas. These shifts have brought about social and economic problems of importance, a discussion of which is beyond the scope of this book.

Factors in Manufacturing Leadership

Principal Manufacturing Nations.—Although emphasis has been placed on the manufacturing position of England and of the United States, other countries adopted the methods developed during and since the Industrial Revolution and have manufacturing enterprises of importance. Most of the European countries, notably Germany, France and Belgium, have become important industrial nations, and some lead the world in the manufacture of certain lines of products. The Scandanavian countries have important wood-working plants; the wines of south Europe are famous; Swiss watches, toys, and dairy products are exported; Belgium is a factor in steel production, and China and Japan are noted for their silks and pottery. Canada has a varied line of manufactures, being helped in its total production by a large number of branches of United States firms. Few if any countries are without some form of manufacturing, yet half a dozen countries have taken the leadership in manufacturing and in exporting to the world. What are the factors which determine manufacturing leadership?

Factors Making for Manufacturing Development.—First and most important, perhaps, is the presence or absence of raw materials. Unless such materials are readily accessible because of good and cheap transportation facilities or because of production in a colony of the manufacturing country, they must be present in the country if it is to be important in manufacturing. No country has been important in furniture manufacturing unless it had supplies of the proper kind of wood. Three essential raw materials must be present or readily accessible if a country is to manufacture steel. Manufacture of flour is naturally conducted in countries having large wheat areas. However, if the industry was first started under favorable conditions as to raw materials, it may continue after the reserves are lessened. For example, England imports iron from Spain

and Sweden to supplement English supplies. Wool is brought into England from the colonies.

Specialization of manufacture of certain articles in specific countries or localities depends in part upon adequate transportation systems. The leadership of England in the carrying trade has made it relatively easy for her to import a great part of the raw materials used in that country. New England has been able to use both rail and water carriers to bring in the raw material she has manufactured. Silk is brought from China and Japan to Paterson, New Jersey, and the surrounding country and there manufactured and distributed to the entire country because of efficient transportation systems. Good transportation is one factor with which both England and the United States have been favored and it has had much to do with their industrial development. Russia, China, and Australia have been handicapped by their inadequate systems of transportation and are backward in manufacturing.

Other Factors in Manufacturing Leadership.—A third factor affecting the development of manufacturing is the presence or absence of adequate capital. Modern machine production carried on in large scale enterprises demands the investment of large sums of capital. Capital is accumulated most commonly by savings from the profits of industry. New countries as a rule have not been able to accumulate sufficient capital reserves to provide for other demands, such as the building of railroads and other utilities. Hence the older countries lead in manufacturing if other factors are equal. For example, the South American countries, Australia, and South Africa are new industrially and have little capital available for manufacturing.

Within certain limits capital is mobile; that is, it seeks investment in sections other than where it has been accumulated. Yet there is a natural reluctance on the part of investors to loan their funds for the use of enterprises so far distant as to make

supervision or personal checking of results impossible. This tendency operates to restrict the investment of capital in the new countries by those who have accumulated the capital in the older countries. Many investors prefer safety with small income to a larger income accompanied by more risk. Hence these investors prefer to loan their funds to safe and sure enterprises at home, and thus encourage manufacturing in the older countries or in the more highly developed sections of the newer countries.

A limited supply of labor fitted for work or willing to work in factories has handicapped some countries in developing manufacturing. Southern negroes have as a rule made poor factory hands. Natives of most of the tropical countries cannot be used. In the newer countries free or cheap land has attracted workers who would otherwise have been available for factory employment, for agriculture offered independence and a seemingly greater income. In order to attract the laborers from the land employers would have had to pay wages too high to allow them to compete with manufacturers in a similar line in countries where labor is cheaper. But as land becomes scarcer this disadvantage disappears. The United States has been aided by its attraction for immigrants and its liberal policy towards them. They have been needed to aid in our development, but as free land is now a thing of the past, our population has perhaps caught up with industrial demands and restriction of immigration is now operative.

As shown above, England received at one time a large number of expert textile workers from France. They were an important factor in the manufacture of the finer goods. As population in England has increased, English factories, notably in textiles and cutlery, have tended more and more to the production of fine grades of material—grades which require a large amount of labor in proportion to the value of the raw material used. Cotton mills in our southern states operate on the other

principle—that of the production of rougher fabrics through the use of much raw material and relatively little labor.

Importance of Business Enterprise.—An intangible but important factor in manufacturing leadership is often referred to as business enterprise. By this is meant a keenness to see business opportunities, courage to proceed when they are discovered, and balanced judgment in the conduct of the business. Without the presence of men who possess these qualities any country would be slow in developing new business enterprises, for its citizens would confine themselves to businesses with which they were already familiar and would be loth to undertake those involving additional risk. Absence of manufacturing in tropical countries where there is plenty of raw material and labor supplies that might be used for some kinds of production, is perhaps due to the enervating effect of such climates. In general, the leading manufacturing countries are in the temperate zones perhaps as much because of this factor as any other. Where free general education is the policy, a greater proportion of the population has the educational background to sense business opportunities. Particularly is this true in countries which have developed systems of technical and commercial higher education, for manufacturing leadership comes to an increasing extent from citizens so trained. Business enterprise also shows itself in the ability to save from one's income, however small it may be, and the resulting ability to take advantage of business opportunities when they arise.

Relation of Governments to Manufacturing Leadership. Governments vary in their ability to protect property investments. Where protection of property is lacking, manufacturing develops slowly. Certain Central and South American states have been hindered in this respect. Where wars have been frequent, industry is hindered both by the disturbance caused by the war and by the resulting high taxes. In the medieval period frequent misgovernment was a factor in the

decline of industry in France and Spain, and its transfer to England, Holland, Belgium, and Germany, where government was more stable. The uncertainty of business under the recent regime of sovietism in Russia has hindered that country in taking advantage of varied and extensive resources for manufacturing. At one period in her history England hindered manufacturing development by restricting the importation of raw materials. During the period of the corn laws in that country the high cost of living forced wages to a level which made competition with foreign producers difficult.

In some countries certain lines of manufacture have been encouraged by a protective tariff. If a policy of free trade is followed, as has been the case in England for many years, industry is exposed to the competition of all other countries. On the other hand, and in a few cases high tariff schedules in one country have led to retaliatory tariffs in other countries, and export has thus been made difficult. Governments vary in their policy of intervention in private business. For example, prewar Germany encouraged the use of "kartels," or trusts, while for the last 40 years the United States has discouraged them in every possible way. In this country governmental control of freight rates through the Interstate Commerce Commission has affected our business structure in several ways.[1] Through stimulation of and actual conduct of scientific research progressive countries aid industry in many ways. Our own government is now aiding the development of foreign trade by careful study of opportunities for the sale of our goods in foreign countries.

Why the United States Leads in Manufacturing.—Keeping in mind the above discussion, it is not hard to realize why the United States is the largest manufacturing nation today. No other country has so varied or so complete a supply of raw materials. Power and the materials for power generation are

[1] See Chapter XXVIII.

available. Our capital is now sufficient to meet most demands made upon it for justifiable new enterprises, although in the past conservative enterprises here were financed to some extent by European investors. Our own capital was thus released for less conservative undertakings. American citizens are noted for their business enterprise. Free land limited industrial development for a number of years, but its lessened attraction combined with the presence of a large number of immigrants and their descendants provide an adequate labor supply for most lines of production. In general our tariff laws have helped new industries to gain a start. Government has been stable and on the whole friendly to business. Our people speak a common language and have common customs. Forty-eight states exist side by side without tariff barriers. Blessed with all these favoring factors, the industrial growth of the United States to a position of world leadership has been a natural development.

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CHAPTER VI

BUSINESS ASPECTS OF THE METAL AND TEXTILE MANUFACTURING INDUSTRIES

Introduction.—In the preceding chapter we have seen how manufacturing developed and how in connection with this development there arose many problems which are as yet unsolved. In this and the following chapter some of the fundamental principles which underlie present-day manufacturing and some of the problems peculiar to certain industries are considered. Certain industries which best illustrate the principles governing manufacturing organization are selected for discussion. Particular attention is given to such factors as the principles which determine the geographical location of different industries, the type of business organization which is most commonly used, the size of the business unit and the capital requirements of different industries.

The Metal Industries

Iron and Steel Manufacturing.—The making of iron and steel products has long been one of the most important lines of manufacturing in the United States as well as in several of the European countries, notably England, Belgium, and France. The manufacture of metal products has recently been estimated as calling for the investment of 32 per cent of all capital invested in manufacturing in the United States or just under $6,000,000,000. This industry is important not only because of this tremendous investment of capital and the fact that it employs nearly 400,000 workers, but because of the relationship which exists between steel manufacturing and other industries. Steel is used very largely in the transportation indus-

try, in the construction of buildings, in all kinds of farming, mining and industrial machinery, in the ship building industry and in the manufacture of cutlery and tools. American industry is dependent in a peculiar way upon the products of the blast furnace and of the steel mill. The development of no other one industry has done more to make economic life what it is today.

Location of the Iron and Steel Industries.—As shown above [1] the first iron industry in this country was developed in the New England states, where small deposits of bog iron were used. Abundant forests furnished cheap charcoal for fuel and by use of this the iron to meet the local demand was made. Later, when the bog iron was exhausted, the Appalachian mountain region was found to contain deposits of iron ore. Local iron smelters using charcoal for fuel and water power to secure a forced draft for the furnaces were scattered over the entire region in the United States as in England. When other methods of making steel were developed, charcoal was replaced by coke for fuel. This tended to locate the industry near the coke, which was best made from a quality of coal found only in the general Pittsburgh region of western Pennsylvania. The presence of the better iron mines in that region aided in making that region the great center of steel industry for many years. With the exhaustion of these mines and with the development of the Lake Superior region there has been a considerable tendency for the steel industry to be located in regions where it is convenient and economical for the iron ore and the coal to be brought together. This fact accounts for the development of the Ohio steel regions, the Gary and northern Illinois districts and the recent development of St. Louis as a steel manufacturing city. In the first two cases Minnesota and Wisconsin ore meets West Virginia, Kentucky, Indiana, Ohio and Illinois coal, and in the latter case Illinois coal is

[1] See Chapter V.

used for manufacturing in blast furnaces fed by Clark mountain iron ore. The presence of iron ore, coking coal and limestone in one region has also developed an important center of the steel industry around Birmingham, Alabama. Similar conditions have made it possible to develop a considerable steel industry around Pueblo, Colorado, the product of which is largely used in the Rocky Mountain and Pacific Coast states. The tendency at the present is for more and more steel to be made west of Pittsburgh but the very great difficulty of moving an industry with such a great fixed investment in plants, and as many workers as has the steel industry has tended to hold the industry to its earlier location.

The Business Unit of the Steel Industry.—Steel making requires a very large investment. Recent improvements in methods which have made common the combining of the blast furnace and the manufacture of the iron into steel products in one plant have increased the amount of the necessary investment. Consequently the number of steel plants is small as compared with those of many other industries. It has been estimated that a half dozen steel companies produce about 90 per cent of the steel made in the United States, but they, of course, have several plants each. The United States Steel Company has invested over $2,000,000,000 and now produces between 40 and 50 per cent of all the steel made in this country. Census figures shows that 66 per cent of all the plants made over $1,000,000 worth of products each in 1919 and that these plants had over 95 per cent of all the employees. Thus there are a few small plants producing specialized products which bulk large in the total number of plants, but not in the total value of output or in the number of workers employed.

The steel industry is typically one operated by corporations; 482 of the 500 plants reporting to the last census were so organized. The amount of capital required to operate either a blast furnace or a steel works, or both, as is the modern custom,

is too great to be invested either by one proprietor or by a few partners. A large number of investors must be drawn upon. As a matter of fact, the number of stockholders of some of the leading steel companies runs up into the thousands.

Science and the Steel Industry.—The steel industry of today owes its existence to the contributions of science. Early, crude methods of making steel have been changed and improved until today there are at least three feasible methods, each of which is used for a different kind of finished product. The oldest method, that of cementation, is still used for producing the high grade quality needed for cutlery and surgical instruments. With the coming of the railroad, a cheaper steel was required, and science gave the Bessemer process which made it possible to make steel in large quantities with comparative cheapness. As locomotives and cars increased in weight, it was necessary to have steel which did not break so easily, which was more tough and less brittle. The open-hearth method was developed to meet this need. Other steels such as nickel steel for armor plate, chrome and tungsten steels, which hold their cutting power, and vanadium steel for automobiles, have been given to the world by scientific experiment to meet these special demands. It is interesting to observe that in this industry as well as in most others, science and invention have been able to solve problems of manufacturing method and organization about as fast as the problems have arisen.[2]

Other contributions of science to the steel industry have dealt with the fuel problem. When it was realized that charcoal was an inadequate fuel, experiments were made with hard coal although with poor success. At last science discovered a method of making soft coal into coke and the problem was solved. With the development of this process it was found that great loss was occasioned by the failure to use the gas

[2] For description of methods of steel manufacture, see Keir, "Manufacturing Industries in America," Chapter V.

released by coke making. Again science was called on to find a place for it in either domestic or industrial use, or in the blast furnaces themselves. Science solved this problem. Inventors have been useful too, in that they have developed extremely complex but extremely efficient machines for the large scale handling of iron ore and for use in the steel mills in the different processes of manufacture.

Machinery and Machine Tool Industries

Importance.—One of the most important of the metal industries is the manufacture of machine tools. The products of this type of industry go into every factory, mine, and lumber camp and to every farm in this country, and many American made machines and tools are exported to foreign lands. Upon the success with which machinery manufacturers turn out their finished product depends the operation of most of the industries of our land. Upon the ability to secure good and efficient repair work in machine shops depends the maintenance of factory equipment. That the factories making machines and tools and doing repair work have met these obligations is proved by the success of American industry as a whole.

Location.—The raw material of this group of industries is relatively heavy and bulky for its value. This has tended to place machinery factories near the source of their raw material —steel—and, roughly, to locate them in Ohio and adjacent states. However, in many cases it is desirable to locate machine making plants near the users of these machines. That factor has made Ohio, Illinois, New York, together with Wisconsin and Indiana leaders in the manufacture of agricultural machinery. The market has, in this case, pulled the factories west of the steel works, but not so far as the center of demand. New England manufacturing has led to the location of important machine tool industries in that region. Centers of par-

ticular industries, as, for instance, automobiles, paper, and shoes, not only make their primary product but are also the location of factories for machines used in these plants.

Manufacture of machinery and tools is carried on in many small factories. When an invention is made and patented the manufacture is usually started in a small way, often in a rented factory. Castings are often made in a commercial foundry and milled in a commercial machine shop. As the machine proves successful the plan enlarges, but in many cases because of competition the scale of production still remains relatively small. In some cases inventions have been purchased as made, or by other methods the manufacture of one line of machinery has been placed in the hands of one company. Notable examples of this are the United Shoe Machinery Company, which owns and leases to shoe factories a very large per cent of all shoe machinery used in this country and much of that used abroad.

The International Harvester Company.—The International Harvester Company, the leader in the farm machinery industry, was formed in 1902 as a consolidation of five companies which together were making 85 per cent of the harvesting machines of the United States, and involved a capitalization of $120,000,000. Four other harvesting machinery concerns were soon taken over by the International, and other lines such as wagons, cream separators, plows, harrows, manure spreaders, gasoline engines, tractors, etc., were either taken over by the purchase of the company making them or their manufacture was begun at factories of the International. Foreign factories were built in a half dozen countries, and their products together with exported machinery made the International the dominant world figure in its line. However, it has never been able to keep down competition entirely and this fact, combined with federal anti-trust legislation and prosecution of this company, has limited its expansion. But it is a tremendous con-

cern and is an exception to the usually rather small business units in this industry.

Forms of Business Organization.—The three principal types of business units are all used in the machinery and machine tool industries. The larger companies are almost without exception organized as corporations, but some are partnerships and a few proprietorships. Hundreds of small foundries and machine shops the country over are the property of one or two men and either partnerships or single proprietorships.

The Automobile Industry

Importance.—One of the most striking examples of the ability of American business to adjust itself to a new development and to create and develop a new industry in a very short period is found in the history of the automobile business of the United States. As early as 1890 experiments with self-propelled vehicles had been made in France and elsewhere, but it was not until a decade later that the industry was established in this country, although 300 cars had been made in 1897. In 1900 there was a total registration of 13,000 cars. In 1923 the registration was over 14,500,000. In the latter year nearly 4,000,000 cars and trucks were made, with a total wholesale value of about $2,500,000,000. Accessories and replacement parts together with tires represented another billion of expenditure.

In value of products the automobile industry is exceeded only by the various products of the iron and steel industry and by meat packing. About 400,000 people are employed in 90 automobile and 147 truck factories and in over 2,000 parts and accessory plants. The extent to which this industry furnishes a market for the products of other industries is suggested by a few figures. Over 2,000,000 tons of iron and steel are used by this industry every year. One hundred million pounds of

copper, millions of square feet of plate glass, 45,000,000 square feet of upholstery leather, and proportional amounts of other articles are purchased yearly by automobile factories. In fact, the automobile industry is one of the best customers of hundreds of manufacturing enterprises.

Location of Automobile Industry.—Most students of the problem agree that the automobile business has grown out of the wagon and carriage industry of earlier years. Many of the automobile manufacturers of today were makers of these older vehicles some years ago. Others now prominent in the industry were once employees of the earlier automobile manufacturers, and when they started their own factories they naturally located in their home towns. Carriages and wagons used hardwood and steel. These were most easily obtained in such states as Michigan, Ohio, and Indiana. The earliest cars used mostly these same products and hence the automobile factories started in the states named. The impetus of an early start and the inability of any other sections to offer better locations for the automotive industry have made it possible for these three states, together with Wisconsin and Illinois to make 78 per cent of the cars made in the United States. Makers of bodies and accessories are more widely scattered, the latter articles being made in all parts of the United States.

The Business Unit.—The manufacture of cars involves the investment of large sums of money and the continuance of the industry under one management for a period of years. For these reasons the corporate form of organization is used almost exclusively in making cars. Parts and accessories, however, are often manufactured by small units organized as proprietorships or partnerships. In a recent year 71 per cent of such factories had an annual output of less than $100,000. The large scale on which car manufacture is carried on is shown by the fact that 9 per cent of the plants making any sort of automotive products employed 86 per cent of the total number

of workers and made 93 per cent of the value of the completed product. The 9 per cent are of course plants making or assembling cars.

Combinations and Consolidations.—Consolidation of a large number of independent companies under the ownership of one company is well illustrated by the story of the General Motors Corporation. Starting in 1908 under the leadership of Mr. W. C. Durant and with the foundation of the Buick line, this company soon took over the manufacture of the Cadillac, the Oakland, and the Oldsmobile cars and several accessory plants. The tractor plants were added and in 1918 the Chevrolet organization became a part of General Motors. In 1919 the Fisher Body Corporation was added. Allied lines now a part of the general organization are the Delco line of starting, lighting, and ignition systems, The Harrison Radiator Company, The Hyatt Roller Bearing Division, The Inland Manufacturing Company, which makes steering wheels, The Klaxon Company, The New Departure Manufacturing Company, makers of bearings, The Muncie Products Company, which makes transmissions and steering gears, and the Remy Electric Company, makers of electrical systems. In addition, there are as a part of the organization, a dozen or more companies which make steering gears, raw steel, wheels, bodies, and other parts, besides several truck companies. The Delco Company gave General Motors control of farm lighting plants, washing machines, and water pumps as well as of Frigidaire refrigerators. The General Motors Service Company has since been organized to render authorized service through agents for the Delco, Remy, Klaxon, Jaxon, Harrison, New Departure, Hyatt, and A C Speedometer accessories.

Eight distinct companies have been formed for the export of General Motors products. The General Motors Acceptance Corporation renders service in assisting car ownership. The General Exchange Corporation gives insurance service for

General Motors dealers, and the General Motors Building Corporation owns and operates the largest office building in the world—a building which contains 1,700 separate offices. Several companies have been formed to supply dwelling houses for company employees. The General Motors Research Corporation carries on experimental and research work at Dayton, Ohio. About 65,000 people, many of whom are employees and dealers, participate in the ownership of all these companies.

Some students of business have professed to see danger of monopolistic control of the automobile business by this very large concern, but only one third of the cars exclusive of Fords are now made by the company. In each of the price groups in which it makes cars it has efficient competition, a situation which should make it impossible for this company to develop monopolistic control of the industry, even if such were its desire. As a matter of fact, the various consolidations seem to have been made to give manufacturing efficiency and control of necessary parts. The result has probably been beneficial in that cheaper cars have been given to the public and improvements of great value have been made.

The Ford Motor Company.—One of the most interesting as well as one of the largest of American business enterprises is the Ford Motor Company, a company which illustrates the rapidity of growth characteristic of many American businesses and particularly those of the automobile field. After a number of years of experimentation and trial the first Ford car was manufactured and sold in June 1903. In the initial year the company produced 1,708 cars, during the single year of 1923 the production was 2,090,959 cars, and recently the ten millionth car was produced and sold. Integration in production has been carried to the extreme in the Ford organization, for not only are the various parts of the car produced by the company but most of the raw materials used in the manufacture of

these parts are produced by the same organization rather than bought in the open market, as is the case with most automobile manufacturers. In order to accomplish this a large number of plants are necessary, and a very complete organization has set up. The following paragraphs show something of these plants and of their various products.

Ford Plants.—The main plant at Highland Park, Detroit, covers nearly 300 acres of which 105 are under one roof. The principal output of this plant is the motors used for cars and trucks. In addition one finds an artificial leather plant, a glass factory, a wire making plant, the Fordite plant, where all steering wheels are made, the electrical division for the making of batteries and generators, a drop forge plant; top and upholstery rooms, stock rooms, and the assembly plant for the Detroit district. Other buildings house the general offices of the company, the Detroit district sales offices, the photographic and motion picture departments, and the trade school for boys. About 60,000 employees are employed under the famous Ford plan of a daily minimum wage of $5 and in addition are given the advantages of modern social and welfare work.

One of the largest Ford plants is the one at River Rouge just north of Detroit. Here 1,100 acres of plant area are devoted to the production of Ford articles and here are housed the iron and steel furnaces. Lake steamers bringing iron ore from the mines owned by the company in northern Michigan discharge ore at the rate of 500 tons an hour for many days of the year. Small freighters from the lumber mills of the company also discharge their cargos at this plant. A modern conveyor system takes the iron ore to the two giant furnaces, each capable of delivering 600 tons of foundry iron a day. Much of this iron is made directly into steel by feeding it, while still molten, into the world's largest electric steel furnace, one which can make 50 tons of steel at one operation.

Other divisions of the River Rouge plant are devoted to making other parts of the Ford products. In one building Fordsons and car bodies are made at the rate of 500 tractors, 1,000 sedan bodies, 4,000 touring cars, and 1,500 runabout bodies a day. In another part of the plant a cement factory makes 1,000 tons a day from blast furnace slag. A paper mill makes high grade binder board from scraps of hard wood-waste from other manufacturing processes. A glass factory with a capacity of 10,000,000 square feet a year uses improved methods in the manufacture of wind shields. Polishing operations follow in succession, and the glass is delivered for shipment after being continuously treated while moving in one straight line in the same conveyors which take the molten glass from the furnace door.

Coke ovens at the River Rouge plant produce 2,000 tons of coke daily from coal shipped from mines in Kentucky, owned by the company, over its own railroad, the Detroit, Toledo and Ironton Railroad. By-products of coke making are 26,000,000 feet of gas, 18,000 gallons of benzol, 60,000 pounds of ammonium sulphate, 17,800 pounds of tar, and 4,500 gallons of refined light oil *daily*. A large part of the gas burned in the homes and industries of Detroit is this gas, a mere by-product of the manufacture of coke for use in the blast furnaces.

At Iron Mountain in the northern peninsula of Michigan, the principal saw mills of the Ford company are located. Here the various wooden parts of the tops and bodies of the cars are sawed out of logs taken from timber owned by the company. These are shipped directly to the various assembly plants over the country. A large waterpower development nearby furnishes electricity for power for the mills. Fifty-two continuous dry kilns are a part of the plant's equipment.

Other Ford Factories.—Many plants for the manufacture of special parts and products are located at different points. For example, a factory at Hamilton, Ohio, makes wheels used

on the various models of trucks and cars. Radiators and gears are made at Green Island, New York. At Glassmere, Pennsylvania, a factory is operated which has an annual capacity of 7,000,000 square feet of glass. This plant with the aid of the one mentioned at River Rouge and a small one at Highland Park, Detroit, allow the company to produce the major part of its glass requirements. Other manufacturing plants are located at Northville, Michigan, Troy, New York, and at several points near Detroit. Several body plants in addition to those mentioned are operated. As an example of extreme integration may be cited the fact that the company recently purchased the American rights to the famous Johansson gauges, perhaps the leading line of precision instruments in the world, and is now making them in an eastern factory.

Twenty-nine assembly plants are located in different cities of the United States. To these plants are shipped the different parts going into a complete car. They are then assembled and delivered to the 9,000 dealers who sell Ford products. Twenty thousand service stations are available for repairs and adjustments. Foreign branches for distribution of the cars are located in ten different countries. The Ford Motor Car of Canada operates a factory at Ford, Ontario, across the river from Detroit, which produces 75,000 cars for Canada and the British possessions each year.

One other part of the Ford organization is the manufacture and sale of the Lincoln automobile. A company which had been formed to produce this exceptionally high-grade car in 1917 was purchased at a receivers' sale in 1922 for $8,000,000. The company was reorganized and capitalized for $15,000,000 and now produces about 10,000 cars a year.

A study of the facts presented as descriptive of this one company show that modern industry is complex in its organization. The production of this one article requires the organization and operation of many distinct factories of many kinds. But modern American organization ability or genius has found

a way to carry out the necessary plans to accomplish the purpose sought.

Durant Motors, Incorporated.—That there is still room in the automobile world for new companies despite the large number now existing is proved by the launching of the Durant Motors, Incorporated, early in 1921. Up to a few months previous to this date, Mr. W. C. Durant had been the president of the General Motors Corporation, but he had left that position as a result of several financial and personal causes. His success in building up General Motors had given him a great reputation in the motor field and also a large number of friends who were ready to invest money in any enterprise which he was to manage. At a recent date the number of stockholders was just under 150,000—the second largest group of stockholders in a single corporation in the United States.

Plans have been launched and in part developed by Durant Motors, Incorporated, for the manufacture of a line of cars ranging from the Locomobile at the top—a car to sell at a higher price than any car except the Rolls-Royce—to the Star, which is to sell at a price which will at all times make it a direct competitor of the Ford line. In between the Star and the Locomobile are manufactured the Durant Fours and Sixes and the Flint, and plans have been announced for another—the Princeton. The Mason Road King, a truck, is also produced by this organization.

In general, Durant Motors differs from both General Motors and Ford in that it buys most of the parts used in the assembly of its cars from standard parts makers and assembles them into the different cars made. This naturally decreases investment and has made it possible for this organization to reach a rather large production in a comparatively short time. As it becomes older and financially more stable it will perhaps change its policy and develop a degree of integration comparable to that of its principal rivals.

Independent Companies.—In addition to the General Motors, Ford, and Durant organizations there are over 100 companies engaged in the manufacture of automobiles and trucks of various kinds and prices. Some are naturally very small but others, such as the Dodge, Studebaker, Nash, and Willys-Overland companies, are of considerable size and offer active competition for the larger organizations described above. In general the smaller companies buy most of the parts used and assemble them according to the demands of the car they are making. Manufacturers of the higher priced cars as a rule make more of the parts they use.

It is probable that as automobile manufacturing becomes more stabilized with age many of the smaller companies will either be consolidated with larger organizations or go out of business. As competition increases, only the most efficiently organized plants and those making the most efficient cars can hope to survive. There are some reasons to believe that there may be combinations which will reduce manufacturing cost and allow the combining companies to survive either as manufacturers of a distinct car or as makers of parts for other cars in the same combination. In fact efforts have been made along this line although as yet without notable success.

Parts and Accessories.—Like the makers of cars, the manufacturers of parts have come into the automobile business in many cases from different machine industries and from the manufacture of raw and finished steel. In many cases the early manufacturers of cars had even the castings and their machining done in custom metal working establishments. As the industry developed these organizations began to specialize and to increase in number until by 1920 their number had increased to over 2,300 in this country. In practically all cases the steel and other materials used are purchased from manufacturers, and no attempt is made to integrate the industry. In the tire industry the larger companies have carried out some

degree of integration and one or two of them have even gone so far as to operate rubber plantations.

The Automobile and Business.—The industrial and social effects of the widespread use of the automobile have been great. In the field of retailing the possibility of rapid and cheap transportation from the farms to the larger towns and cities has had great effect. Prior to the use of cars, crossroad stores were common, for the farmer was not able to go beyond a few miles to secure his ordinary supplies. Hence general stores were operated in very small villages and even in some sections in the open country. Now practically all of the crossroad stores and many of the general stores are out of business; for the farmers prefer to go to larger villages and the smaller cities where they are able to choose from a larger selection of goods, and in some cases to buy at the cash-and-carry stores where the prices are somewhat lower. The car has also brought country folk in more direct contact with city people and city ways with the result that the farmer tends to go to the cities for shopping articles. This has affected the kind of stocks carried in the stores in these smaller towns and small cities. The almost universal use of light trucks for delivery purposes has decreased costs of delivery and has made it possible for the stores to serve their customers better by more frequent and more reliable deliveries.

A different effect of the automobile on retailing has been the creation of thousands of new retail stores for the sale of automobile accessories. The old livery stables have given way to about 50,000 garages. Feed stores have been decreased to an almost negligible number. Blacksmith and wheelwright shops have been changed in many cases into garages and repair shops. Young men have become motor mechanics rather than horseshoers and woodworkers. Over 40,000 business men have become automobile dealers. More than that, many buildings have been changed into use as display rooms and garages

or have been built for the purpose. Thousands of feet of lumber and many tons of brick, tile, and cement have been used for erection of filling stations where thousands of men are employed. Five thousand charging stations employ more than as many attendants and furnish a worth while outlet for electrical energy. Thousands of tire shops have added a new element to the retail world. The sale of hundreds of kinds of accessories is an important part of the trade of hardware and general stores as well as of mail order houses. In addition, the regular accessory stores or shops exist by the thousand.

Science and the Automobile Industry.—Perhaps no other single industry has offered the field for inventions in recent years which has been offered by the development and perfecting of the modern passenger automobile. Literally hundreds of important inventions have been made which have made the present perfection of the car possible. Yet inventors are not convinced that they have reached the ultimate and are seeking to improve the automobile in different ways. Some are working on the problem of reducing gas consumption; others are paying attention to making riding more comfortable; some work on improved electrical parts; still others are working to improve the tires. So important is this field that the General Motors Corporation devotes one entire section of its organization to research and invention and employs a large number of engineers and other scientists for this work.

An indirect effect of the development of the automobile industry has been in the coordinate development of the rubber industry. So great has been this development that in a recent year 45,000,000 tires and about 60,000,000 inner tubes were manufactured. Nearly 1,000,000 solid rubber tires aided in the consumption of 545,000,000 pounds of crude rubber. The entire rubber industry has been greatly affected by the use of rubber in connection with automobiles for new methods of treating rubber and improved methods of manufacture have

resulted from careful scientific study and experiment. As a result rubber is used for a variety of purposes which would not have been developed had it not been for the stimulation of the rubber industry as a result of the automotive demand for the product.

This industry has drawn on the different scientists to a considerable degree, but particularly has it used the services of the chemist and the physicist in many ways which it is impossible to describe at this point. The mechanical engineer has been back of most of the mechanical progress made in the industry. Machine tools and automatic machinery contributed by this type of engineer have done much to simplify and to cheapen production. Interchangeable parts, with all that they mean to the cheap and continuous operation of cars and trucks, can be made only by exact machinery.

The Automobile Market.—Unlike the sale of staples, the sale of automobiles cannot be confined to a local market. The entire country must be covered almost at once, and this has created many problems of marketing in this industry which are unique. Many of these problems have been solved, but others, such as the used car problem, are still troublesome. The sale of automobiles has well illustrated the fact that reduction in price of a commodity creates new sale possibilities. With every $100 taken off the price of the cheapest cars, literally thousands of new buyers are made available. A similar reduction on the part of manufacturers of more expensive cars will make their sale possible to hundreds of people who have been using cheaper cars. This accounts for the fact that the automobile market has not yet reached a point of saturation and that increasing sales year after year are possible. Systems of financing automobiles described below [3] have also made it possible for thousands of cars to be sold to people who could not possibly have purchased them for cash. Foreign countries pur-

[3] See Chapter XVII.

chased 184,516 passenger cars and 37,291 trucks in the United States in 1923 and thus created a considerable additional demand for the output of the automobile industry.

Textile Industries

Important.—Historically, the manufacture of textiles ranks first among the manufacturing industries of this country. Manufacturing of textiles was carried on in the first factory in this country, and today more workers are employed in cotton factories than in any other single manufacturing industry. Products of cotton factories rank sixth in value of product among all manufacturing industries. Woolen mills employ thousands of workers, with millions of capital investment, while silk mills, although relatively less important, make a significant contribution to the total of American manufacturing.

When to the mills which make unfinished cloth products are added the large number of mills which do nothing but dye or bleach cloth, scour wool, cut cloth into clothing, etc., the significance of the textile industries is apparent. Moreover, every person uses the products of either silk, cotton or woolen mills every day of his life in the form of clothing and hence this industry affects every one. Products of textile mills form a part of the raw materials of other industries such as the fabric for automobile tires and the material for clothing manufacture. A host of minor industries, as for example oilcloth manufacturing, use textile products also, and treat or change the form of cloth in many different ways.

Location of Textile Industry.—This industry well illustrates a number of the factors which determine the location of manufacturing industries. Early concentration in New England was due to the encouragement given the early industry by the business men of that section, who could foresee the possibilities of the industry; to the inventive ability of the leaders

of the industry, who developed whole series of new machines; to the favorable climate, the dampness of which made spinning possible; and to capital accumulation in New England. Stimulated by the early start, this section still remains the leader in cotton manufacturing, although its supremacy is now threatened by the southern states. The advantage of a location close to the supply of raw material was long overcome by scarcity of labor and capital in the south and by the tradition of the New England location. Increased labor supplies and the availability of capital both from local accumulation and from New England textile companies who have moved their plants to the south, have combined to make the product of southern cotton mills almost equal to that of New England mills.

Woolen manufacture was very early a home industry. It so remained in this country until shortly after the beginning of the cotton mills in New England, when cotton spinning and weaving machinery was adapted for woolen manufacture. Naturally the first factories were near the cotton mills in New England. But woolen mills soon became common in many sections of the country, and the industry supplied in most states a local need. The census of 1870 showed that there were over 2,800 woolen mills east of the Mississippi. But the census of 1920 found but 961 mills in the entire United States. As a result of the economy of large scale industry and of certain advantages of location near other textile factories, many small mills have given way to large scale factories in the textile regions of New England and in the Philadelphia region.

Silk manufacture is concentrated in a small section around Philadelphia and in neighboring sections of New Jersey. Silk is so light in comparison to its value, that, unlike products which are heavy, bulky but cheap, its raw materials may move easily to the source of the best labor supply. This seems to be in the regions mentioned and is principally composed of women and girls whose male relatives work in other factories of the section. Nearly twice as many mills—1,565, to be exact

—are required for making our silk products as are used for making woolen goods.

Use of Machinery.—To a surprising degree the textile industry is dependent on automatic machinery. Manual labor has been almost eliminated by the use of machinery which performs nearly all the necessary operations, with human labor used only for supervising and making adjustments. The use of machinery has made the industry dependent to a certain extent upon locations where water power has been available. The success of many southern mills as well as those of New England has been their location in regions of abundant water power.

The Textile Business Unit.—Although there are some large plants in the textile manufacturing industries and a few combinations have developed, textile manufacturing is characterized by comparatively small-scale plants. The type of machinery used is such that beyond a certain point there is little economy in increasing the size of plants and the scale of operations. Hence the capital investment in textile plants is much less than in steel manufacturing, or in transportation companies as a rule. In fact some of the accessory industries, such as wool scouring and cloth dyeing and bleaching, are carried on in plants employing as few as 50 workers. Corporations, however, are the dominant form of business organization used by companies in this industry, for although the plants are relatively small they are as a rule too large to be conducted by either single proprietorships or partnerships.

Clothing Industries

Early Methods in This Industry.—Up to the time of the development of the sewing machine just prior to the Civil War, the manufacture of clothing was done either in the home or by journeymen tailors in the various towns and cities. At one time

the tailor visited the homes of his customers, just as does the itinerant dressmaker in the country sections today, but later he became established in his own shop and his customers came to him, furnished the cloth, and asked him only to make it into a suit of clothes. Still later the tailor sold the goods from the bolt and thus added the merchant function to that of an artisan. With the invention of the power sewing machine, and the sudden demand for standardized clothing for uniforms for the Civil War, the industry received a start as a factory industry. After the war only the cheaper grades of clothing and work clothes were made in the factory. But as the economies of factory manufacture became known, and as methods of making standard sizes were perfected, there has been a steady increase in the proportion of factory made clothing for men and a steady decrease in the demand for the product of the merchant clothier. Today the value of all manufactured clothing is around the 2 billion mark.

Location.—The possibility of securing a cheap labor supply for the operation of machines has located the manufacture of both men's and women's clothing in the larger cities. New York is the largest center for the manufacture of cheap clothing while Rochester and Chicago lead in the better grades. New York is able to secure many immigrants trained in tailoring lines abroad who enter the factories of that city when they first land, and in many cases always remain there. Eastern cities are well located with reference to the supply of raw material, for 90 per cent of the woolen manufactures are produced in the Atlantic Coast states. However, such western cities as Chicago are not greatly handicapped; for woolen cloth is valuable enough to stand transportation costs, and it must move to the great middle-western and western market in some form at some time.

Scale of the Industry.—With the exception of the companies manufacturing the dozen or so nationally advertised

lines of men's clothing, this industry is carried on by small scale operators. Advertised brands are made in very large modern factory buildings by large corporations having large capital investment and maintaining an elaborate production and selling organization. But the typical manufacturer of the cheaper lines of outer clothing, overcoats, and work clothes is a small-scale business man. Perhaps the majority of the factories are located in rented lofts, thus eliminating the necessity for investment in buildings. A factory can be started with fewer than a half dozen second-hand sewing machines. No investment is necessary in raw material, for it is customary in many of the cheaper lines for one business man to buy the raw material and cut it up, while another business man performs the other tailoring operations.

For these reasons it is possible for a manufacturer of ability to get started in a small way with very little capital investment. If his ability is adequate, he is able to expand from time to time until he has more machines, a better loft, or even his own building; and with the expansion comes the purchase of bolt goods and the manufacture of the clothing on his own account. This involves capital investment, risk because of the style element, the necessity of a sales organization, and in every way the conduct of a more elaborate business enterprise.

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CHAPTER VII

BUSINESS ASPECTS OF CERTAIN OTHER MANUFACTURING INDUSTRIES

Leather Industries

Tanning Plants.—Leather tanning well illustrates the changes which have taken place in the methods used in many of our manufacturing industries. In early days tan-bark was used for tanning local supplies of leather and the industry was largely one of hand processes, with the use of little machinery and comparatively few laborers. Hence it was carried on in a large number of establishments each involving the investment of but a few hundred dollars and employing but a few workers. But with the disappearance of local supplies of tan-bark and the increased dependence on a small number of large packing houses for the supply of hides, a change has come over the industry. Tanning extracts are made from the bark in the few areas where it is still available in large quantities and are sent to large tanning plants. Foreign supplies of tanning extracts are also largely used. Chemical processes, principally the chrome method, are used very largely for the lighter types of leather. Imported hides from Argentina and other South American countries, calf and sheep skins from Europe, and goat skins from Asia furnish an important part of the raw materials used in manufacturing leather. All these factors have combined to replace the small local tanning plants by large factories with large capital investments and many workers. In fact, the number of tanning establishments decreased from 7,569 in 1870 to 608 in 1921. This comparatively small number of establishments represents, however, an investment of

over $1,600,000,000 and furnishes employment to about 50,000 workers.

Location of Tanning Plants.—Although there is no longer any necessity for the location of tanning plants near the source of tan-bark, the difficulty with which an industry moves has kept the industry largely where it was a half century ago. Thus, Pennsylvania with 99 and Massachusetts with 119 plants are the leading states. The convenience of making imported skins and tanning extracts into leather at or near ports of entry also makes these states important as tanning centers. The local demand for leather for use in shoes in Massachusetts shoe factories is also a factor in that state's rank.

Shoe Manufacture.—The 1,500 shoe factories of the United States make more than 300,000,000 pairs of shoes each year and employ about 200,000 workers. Previous to about 1850, when the sewing machine was adapted for use in making shoes, the industry had been one of hand labor, and in the earlier years one carried on in the homes of the workers. Later, small rude factories were created where a number of shoemakers were brought together to work under the direction of a foreman on materials supplied by the factory owner. Little or no machinery was used until the invention of the sewing machine resulted in the development of machines for attaching the uppers to the soles. This was followed by the development and application of machinery to many other processes. A complete series of machines has been developed for this purpose and is supplied to factory owners under a unique system, inasmuch as a majority of the machines used in the shoe factories of the United States are owned by the United Shoe Machinery Company. This company owns the patents on these machines and manufactures them in its plant in Massachusetts. The machines are not sold to the shoe factory operators but are leased to them on a royalty basis under which the lessee pays a certain amount to the United Shoe Machinery

Company for each shoe run through each machine. The company has an actual monopoly, for it owns the patents for so large a part of the shoe machines that it has been able to prevent the use of machines made by any other company in any factory where its machines are used. Certain essential machines can be secured only from this company and hence its monopoly has been complete. Court orders of recent date have modified the completeness of its monopoly but it is still virtually supreme.

Because of the large number of intricate machines which have been developed, shoe manufacture is on a comparatively large scale. Few shoe factories employ less than two or three hundred workers and many employ many thousands of workers. On the other hand, because of the lease system for the machinery used, the investment is much smaller than that in many other industries of equal importance. In fact, in some shoe towns in Massachusetts it is possible for a new manufacturer to rent a loft or portion of a building, with the heat, light, and power supplied on a rental basis. The machines are leased and hence a very small investment allows a new company to start production. Many of these concerns are formed by two men, one experienced shoe salesman and one experienced production man.[1] This system explains the fact that over 200 shoe factories are operated by single proprietors and a similar number by partners. However, in nearly all cases factories operated other than by corporations are comparatively small in scope as compared with the much larger plants operated by corporations. In addition to economies of overhead administration and to certain economies of more detailed division of labor in large plants which have made for large scale production, national advertising has had the effect of increasing the size of factories making advertised lines of shoes. For example, long-continued and effective advertising of such brands of shoes as Queen Quality, Florsheim, Hanan, or Douglas has created a demand for many thousands of pairs of these shoes

[1] See Keir, "Manufacturing Industries in the U. S.," page 236 *ff.*

each year. In some cases more than one plant is operated, but as a rule to supply such large demands one very large plant has been erected and large-scale production is carried on.

Location of Shoe Manufacturing.—About three-fourths of the shoe factories of the United States are in New England and adjacent states. The impetus of an early start, location near the source of leather supply today, banking influences, and the reluctance of workers to leave home communities, have combined to bring about this result. However, the industry is tending to become less centralized. A considerable shoe manufacturing area is in and near St. Louis, Missouri, and another important region is around Columbus and Portsmouth, Ohio. Shoes take a high freight rate because of their bulk and value and hence there is an increasing tendency to manufacture them nearer their market.

Other Leather Industries.—Although the largest single use of leather is for shoes, many other industries use leather as a raw material. 272 factories, over one-half of which are located in New York, are engaged in making leather gloves and mittens. Over 9,000 workers earn their living in these factories, and their product makes it possible for many thousands of workers in many other industries to carry on their work more efficiently and in greater comfort because of the supply of gloves and mittens. Concentration in this territory is explained by the fact that Scotch glove makers formed a colony in this region in the early days, and the impetus of the early start has operated to retain the industry in these communities. However, there seems to be at present a tendency for the industry to spread to other sections of the country.

Leather is of great importance on the farms and in other places where horses and mules are used, as the raw material of harnesses and saddles. Several hundred factories making these products are scattered over the entire United States with considerable concentration in Illinois, Indiana, Ohio, Pennsyl-

vania, and Iowa. The industry tends to be a local one, where the demand is present. As a rule the plants are not large and many sets of harness are made by local artisans in connection with the retail sale of the goods themselves. Leather belting, an essential in most factories, is made in 164 factories employing about 2,000 workers. Other important uses for leather are for trunks and valises, pocketbooks, bookbinding, toilet articles, and sporting goods.

Leather Substitutes.—The fact of decreasing supplies of native leather and its lowered quality, to be explained by the fact that pure bred animals do not furnish as good hides as do wild or scrub stock is of interest to many business men. As a result our dependence on foreign supplies is becoming greater. But these supplies are apt to be less in the future. Hence substitutes are being developed. Attention is being paid to the possibility of using the skin of sharks and other fish for leather. A fabric impregnated with leatherlike substitutes is used for upholstery and for trunks and valises, as well as for toilet articles. Rubber compositions are being increasingly used for shoe soles, and some sort of fabric for shoe uppers must be developed. Fabric and rubber belts are being used in many factories. Other inventions must be made in the future to take the place of the diminishing supply of leather. The opportunity for young business men who can develop and successfully market these substitutes is present if they can take advantage of it.

The Rubber Industry

Importance.—Parallel with the growth of the automobile industry has been that of the rubber industry, for the production of cars and trucks has called for a corresponding production of tires and tubes. Other uses of rubber are becoming of increasing importance. For example, rubber boots and

shoes are made in 25 factories to the extent of over $100,000,000 worth of product each year. Rubber is fast replacing leather for belting and has a wide use as hose. Electrical insulation depends to a great extent on the products of this industry. Vast quantities of rubber are used for druggists' and stationers' sundries, while the use of rubber for flooring is increasing each year. Rubber heels are replacing leather on both new and old shoes. These and other uses of rubber combine to make necessary the operation of over 500 factories and the employment of over 50,000 people in this industry at all times.

Location of the Rubber Industry.—The manufacture of rubber tires and tubes is closely centralized in Ohio, with Akron as the predominant city. This city was the home of two of the leading men in the industry, both of whom had been engaged in the manufacture of bicycle and carriage tires before the advent of the automobile. This had given them some familiarity with rubber manufacture, and hence they were in a good position to develop with the new industry. Other factories were located in Akron because of the presence of skilled workmen who could be secured from existing factories, and because of the fondness of bankers who loan money for new projects for having the money used where they may watch its use. Thus when young men trained in the older factories wished to borrow to start in business for themselves, they were able to secure the money from Akron bankers because they knew the facts about the industry, but only if it were to be used in Akron. Later developments of the rubber industry of Akron, however, resulted in its outgrowing the financial institutions of Akron, so that it became to a considerable extent dependent upon the larger financial institutions of Cleveland and New York City.

As the rubber industry developed, Akron became overcrowded and rubber factories were started in neighboring cities.

Thus the industry has spread to many Ohio cities and to some in adjacent states. One of the largest rubber tire factories outside the Ohio district is at Denver, Colorado. Starting with the manufacture of leather strips studded with spikes used for protection of early rubber tires where roads were bad, this company began the production of tires when the demand for the earlier product vanished. On the whole there is a tendency for the industry to spread over the entire country; for the demand is everywhere, the material is nowhere local, and rubber workers have sufficient mobility to make it possible to induce enough of them to settle in a new city and teach the trade to local workers.

The manufacture of rubber shoes, overshoes, and shoe heels is largely concentrated in Massachusetts and Connecticut. Early imports of rubber were unloaded at ports in these states, and the first factories were at these ports. But there has been a constant tendency for the factories to locate nearer to the centers of the leather shoe industry in the Boston district, and here most of them are now found. One student of the industry explains the move in location by pointing out that the trade channels used in marketing leather shoes and rubber shoes are the same.

Ceramic Industries

Brick and Tile Manufacturing.—Brick and tile products are made in practically every state in the country. The wide distribution of the raw material, clay, the limitation on its shipment set by great weight and low value, and the small amount of capital and skill required to start in the industry make brick and tile production one of the most widely distributed of our manufacturing industries, and account for the presence of over 2,000 such factories with an average of less than 30 workers each. Certain special kinds of brick, as fire brick, and special kinds of sewer tile are not so widespread in their manufacture but are made in large plants where special quali-

ties of clay are available. Eastern Ohio, for example, has a number of regions which make particular kinds of sewer and other tile of such special quality that they can be shipped for considerable distances.

Pottery.—The general head pottery includes a number of ceramic products. Unlike the manufacture of brick and tile, this industry is limited to some extent in its location by greater scarcity of raw materials. Special kinds of clay must be used for art pottery and the finer kinds of floor and building tile. Hence the manufacture of these products is carried on in localities where the special clay is either available at the present time or was at an earlier date. Zanesville, Ohio, is such a center for the manufacture of white and decorated tile and the finer grades of art pottery. The kind of clay used in the earlier history of the manufacture of this industry was at Zanesville and much is still present.

But with the manufacture of a wider line of pottery and tile has come a demand for other kinds of clay which must be imported from other states and even from abroad. Yet the existence of natural gas as a cheap fuel in Zanesville, Ohio, the early start of the industry in that city, and the presence of skilled pottery workers have induced new plants to locate at Zanesville and have led older establishments to remain there. East Liverpool and other Ohio cities lead in the manufacture of other kinds of pottery for similar reasons. Certain New Jersey cities are for the same reasons the center of the manufacture of sanitary fixtures. Cincinnati has a world famous art pottery because of the presence of the right clay when the plant was started many years ago. Ohio and New Jersey lead in the manufacture of electrical porcelain because of the union of raw material and cheap fuel.

Cement.—The manufacture of cement is widespread because of the presence of essential raw materials in many regions and because demand for it is present in all sections. Its heavy

weight and low value limit the distance over which it can be profitably shipped. Cement plants require a large amount of invested capital and hence the market for the product must be assured. For this reason the plants tend to be grouped near the principal large cities, their main market. Large amounts of fuel are needed and hence cement plants must be located where either natural gas or cheap coal is present.

The Glass Industry.—Glass manufacture was for many years a hand process. For this reason its development was largely restricted by the demands of the glass blowers' union. Strict limitations on apprentices combined with severe physical requirements kept down the number of glass blowers available and restricted the industry to a few New Jersey towns, where it had developed early with the use of charcoal as a fuel. With the invention of artificial gas and the discovery of natural gas in western Pennsylvania, Ohio and Indiana, the industry spread to these states, where it is largely concentrated today. Machines have been invented for making glass products, and the industry is rapidly becoming one of machine rather than hand processes. The raw material, sand, combined with lime and soda, and with lead for the best glass, is widely distributed, and wherever either gas or oil may be used as a fuel, the industry may develop in the future.

Industries Supplying Food Products

Flour Milling.—A very important group of manufacturing industries supplies various food products. One of the most important of these is flour milling. In pioneer days wheat was ground into flour in the homes of the people. Later the custom mill, using water power as a rule, took over this function, in general receiving its payment in kind by retaining part of the finished product. Practically every settlement had at least one of these mills. But with the development of the science of

making flour by mixing different kinds of wheat the industry lost its local character and became more centralized. Another reason was the increased dependence of the industry upon the wheat from the great wheat producing areas of the West. As a result, the number of mills grinding flour has steadily decreased and at the same time the size of the unit, the capital invested, and the number of people employed have steadily increased. Advertised brands that have become common have made for large factories producing standardized flour varying but little from month to month in its quality. Located with reference to power, supply of raw material, and the market demand, many of these mills now employ hundreds of workers and involve a very large investment in machinery and buildings. But side by side with these large mills can be found a large number of local mills, known as "chop mills," which grind the different cereals for animal feeding purposes, and sometimes make flour on a small scale for local consumption. Payment in kind still survives in some of these mills.

Because of lower freight rates on wheat than on flour there is some tendency for mills to be located nearer the point of consumption than that of production. For example, such cities as New York and Boston have important mills, supplying local demand. Buffalo at the end of lake transportation grinds a great deal of flour, as does Kansas City, which is well located with reference to supplies of wheat from the southwest and to a central market. Seattle is an important center on the Pacific coast. Many smaller centers are found in the wheat regions, for such mills operate on a relatively small scale. As a result of an early start because of exceptional water-power facilities, Minneapolis is still the leading city in this industry. Here wheat from the Dakotas, with some from Canada used for mixing, meets water power and is made into flour in some of the country's largest mills. This city is also the home of some of the leading advertised brands of flour, a fact which has helped to maintain its leadership.

Other Cereal Industries.—Manufacture of other cereals into breakfast food, macaroni, pancake flour, and other specialties is widely distributed. Development of Shredded Wheat at Niagara Falls, New York, and Oakland, California, oatmeal at Cedar Rapids, Iowa, and other centers, and a varied line of foods at Battle Creek, Michigan, has been more accidental than justified by any important location factors. The power of advertising has been largely responsible for the growth of these industries to a point where they consume a considerable portion of our cereal crop each year. Almost without exception these specialties are made by large corporations operating one or more mills and having a large sales organization and large capital resources. They well illustrate the building up of a typical American industry which transforms a common raw material into a high grade manufactured specialty.

Food Canning Industries.—The present importance of these industries is a result of the contribution of science to the broadening of the supply of the American table. Home drying of fruit has almost entirely disappeared and home canning is much less important than of old. The method of sealing these fruits in tin cans has been responsible for the change. The average person now has a variety of such foods available throughout the year, for consumption is not dependent on possibilities of local production. Such foods can be most economically produced because of this invention, for they can be grown in regions best suited for their production. In a few cases savings are made by canning surplus crops which would otherwise be wasted. The importance of food canning is shown by the fact that in a recent year there were nearly five thousand plants canning fruits, vegetables, and meats in different sections of the country, and by the further fact that their product was estimated as being worth over five hundred millions of dollars in 1923. Nearly 90,000 is the average number of workers employed.

Supply of raw material is the primary factor in location of canning industries. Comparatively little power is used, and local supplies of help can be obtained for the few weeks of the canning season. For this reason California leads in importance, followed by New York and Maryland. Because of a dry climate, many sections of California dry enormous quantities of prunes, apricots, peaches, raisins, and apples in the open air, this section being almost the sole source of dried fruit today. Salmon is canned along the North Pacific Coast and in Alaska and oysters in Maryland.

A Small-scale Industry.—In general canning factories involve but a small investment in buildings and machinery, and for this reason many such factories are operated by single proprietors or by partners. A larger amount of capital is necessary during the canning season for meeting the payroll and for paying for the raw material canned. Such capital is often secured by loans from local banks either unsecured or secured by contracts already made for the sale of the product. Many such factories are operated either directly or indirectly by wholesale grocery firms who thus secure a dependable supply of this part of their stock in trade.

In only a few cases have large organizations marketing a well advertised brand been built up, but where this has been the case, these corporations have operated a considerable number of local plants rather than a few large canneries. The typical cannery operates but a few weeks each year and employs perhaps 50 or 100 workers for this short period of time. A small staff is used for the entire year for the maintenance of the plant, for office work, and for shipping duties. Most canneries have one or more expert field men available throughout the growing season for technical advice to the growers of the product.

Meat Packing.—Like the flour milling industry, meat packing has been taken from the home and the small local plant to

large central factories. Instead of the local butcher killing one or two or a half-dozen meat animals a week in inefficient and often unsanitary slaughter plants, large, efficient, and extremely sanitary establishments furnish the larger part of our meat supply—a product valued at about 5 billion dollars in a recent year. One of the well known firms operates 8 plants with 60,000 employees and a capacity of 57,000 animals a day. This company has over 400 branch distributing plants in all sections of the country, and uses 7,000 refrigerator cars owned by the company for the transfer of this meat. Three or four other firms operate on a similar basis, and in addition there are over a thousand plants in the smaller cities of the country which draw their supply of animals from their contiguous territory and supply meat dealers in this same territory with their stock in trade.

Economies of large scale operation and the more complete use of by-products are the two princial reasons for the concentration which has developed in this industry. These economies are sufficient to make it possible to ship a carload of hogs from an Iowa point to Chicago and to allow the shipment of the fresh or cured pork back to the same town more cheaply than would be the case if the animals were slaughtered locally by inefficient methods and the by-products wasted, as is the case in local small-scale slaughtering. Such large-scale operations naturally call for large-scale capital investment, large buildings, and vast amounts of machinery in addition to the employment of thousands of workers in the larger plants and hundreds in the smaller ones. The corporation is the form of organization used, and in many cases hundreds or even thousands of stockholders share in the ownership of the corporation.

Dairy Products.—Home manufacture characterizes the production of dairy products under pioneer conditions. This was true in the early history of the country and it is still true in undeveloped regions where there is not a sufficient amount

of milk available to justify the creamery or cheese factory.

Present day consumers desire butter of uniform quality and the product of modern sanitation and manufacturing methods. But unlike meat packing and flour milling, and like fruit canning and preserving, the factories are located near the source of raw material production. It is far more economical to transport the finished product, butter, to the market than it is to ship the whole milk, or even the cream, and in addition the perishability of sweet milk makes it desirable to manufacture it as soon as possible. Hence the great bulk of our butter is manufactured not many miles from the source of milk supply and in small plants operated by one or two men and costing but a few thousand dollars. Many such plants are owned and operated by cooperative companies of the farmers supplying the milk.

Perhaps the greatest success of farmers' cooperation has been in operation of creameries, for the process of manufacture and sale is simple, and little investment is required. It is also an industry which continues every day of the year. However, there are a few examples of large-scale creameries which operate shipping stations in local villages in which they concentrate the cream brought to them by farmers and ship it to a central creamery which is operated on a rather large scale. The amount of butter produced by such creameries is not important nor does there seem to be any tendency for their relative importance to increase. The industry seems to be fitted for small-scale operation and will probably so continue.

Fresh Milk and Cream.—The supply of fresh milk and cream for our large cities involves a very complete organization. For example, it has been stated that Chicago uses daily about 1,000,000 quarts of milk and 100,000 quarts of cream. The larger cities must draw this supply from a considerable territory. Refrigerator cars make it possible for them to do

so. Stations where the milk is bottled, and in most cases pasteurized are operated in the villages around the city, and in these villages replace the creamery, for the farmer can secure more for his milk for this purpose than for making it into butter. The bottled milk is then shipped to the city and distributed. In some few cases the milk is shipped in large tank cars like those used for oil, either with or without refrigeration. As a rule the companies which secure and distribute the fresh milk are of considerable size and employ many men.

Other Milk Products.—Other milk products are manufactured under varying conditions. Condensed milk is produced in about 400 plants in three principal sections, New York, the central states, and the northwestern Pacific Coast. A comparatively few companies operate these plants, for condensed milk is sold largely on the basis of an advertised brand. Large companies own these brands and own a chain of condenseries in different sections. Such plants commonly use more milk than does the local creamery, but they are essentially local enterprises, although owned by a central company which distributes their product.

Ice cream has become of increasing importance in recent years and now furnishes a demand for large amounts of milk and cream. As a rule there are one or more ice cream companies in the different wholesale centers of the country which ship in their raw material from the country around, manufacture it, and reship to the towns from which the milk came. Often this enterprise is combined with either butter manufacture or the distribution of fresh milk and sometimes with both. There are many local ice cream factories in the smaller towns, but usually a brand which is well known over a considerable territory meets a larger sale than the product of a small local ice cream plant.

The Chemical and Electrical Industries

Importance.—The World War emphasized the fact that in the development of the chemical industries the United States had lagged behind the principal commercial nations abroad. Not only were we dependent upon other countries for many of our chemical articles of commerce, but knowledge of essential processes had not been developed. However, the war served to emphasize in a graphic manner our slowness and the essential nature of these industries, and they are now receiving the attention which is their due. Modern manufacturing in all lines and in some special lines depends more upon the chemist than upon the mechanical or the electrical engineer. For example, the manufacturer of commercial fertilizer is absolutely dependent upon the chemist, for from him must come the formulae which make the product valuable. Chemists have developed our dye industry to its present importance. Modern explosives are the product of many chemical experiments. Chemistry has increased the gasoline derived from one barrel of crude petroleum from 4 to 13 gallons. Drugs and patent medicines, perfumery, essential oils, paints, soap, and textiles are but a few manufactured articles which have been improved or made possible by the work of the industrial chemist. So important is this newcomer in industry—the industrial chemist—that he is an essential staff member of the force of most manufacturing establishments.

Tests to determine the quality of raw material purchased, changes that are taking place during manufacture, and the quality of the finished product are either made by chemists or by others who use methods determined by chemistry. Any system of careful analysis of the content of raw materials must depend on the methods of chemistry. In many lines of manufacture, the chemist is of greater value in the development of new processes than any other employee. Standardization is a new work and a very important word in the vocabulary of

business, and much has been accomplished in eliminating waste resulting from its absence, yet in many lines standardization can come only after the chemist has determined upon and set up standards. The young business man can well use a knowledge of chemistry as a part of his preparation, for many manufacturing steps and also many phases of future retailing will be dependent on the chemist. Business men will at least need to know when to use the chemist in their industries.

Location of Chemical Plants.—The term chemical industries is so broad that no general statement can be made relative to the location of chemical enterprises except that it is perhaps true that the most important factor in their location is the source of raw material. Many are located with strict reference to this factor, while the location of others has been determined by the market. Neither can any general statement be made relative to the size of the plants involved nor the amount of capital or the number of workers per plant. All these factors vary with different phases of the industry. Some chemical plants are very large, while some employ but a few workers. Some are located in cities and some in the open country. But let it be emphasized that the different industries coming under this group are basic in their relation to American industry as a whole, and that as this country becomes older industrially, their relative importance will perhaps be greater than it is even today.

Electrical Industries.—The rapid increase in the use of electricity has had a two-fold effect upon the business world. The use of electrical generators and motors and the transmission of electrical energy from central power stations to a wide area have changed the location of many manufacturing enterprises and altered the layout and equipment of many plants. The manufacture of such electrical equipment as transformers, motors, generators, switchboards, batteries, insulators, transmission wire, cables, starting and controlling apparatus, tele-

phone and telegraph apparatus, and the different kinds of lighting equipment together with the various kinds of electrical household equipment is one of the leading industries of this and of other countries. The number of retail and wholesale stores devoted partly or entirely to the sale of household equipment, radio apparatus, and other electrical supplies is considerable. In a recent year about 160,000 factory employees were used to produce this type of manufactured products. Fifty million dollars of storage batteries were manufactured and $55,000,000 worth of incandescent lamps. Telephone apparatus made in a single year sold for $100,000,000 at the factories, while such minor products as electrical measuring devices totaled over $21,000,000. Wire worth $98,000,000 was used to transfer electrical energy from place to place, while insulated cable cost $34,000,000. These figures show something of the importance of the industry.

The present place of electricity in industrial and social life is due to the continuing contributions which have been made by the different kinds of scientists and inventors who have made the present near perfection of electrical mechanisms an accomplished fact. Based on the fundamental inventions of Edison, Bell and others new uses for electrical energy have been developed from year to year. The automobile furnished a great demand for batteries, and for generating and ignition systems for thousands of cars each year. The radio industry uses thousands of batteries and millions of pieces of delicate equipment each year. As the possibilities of these and other uses of electricity have been made apparent, invention has been stimulated to make the power of electricity still more available.

Business men may well study the new developments in this industry, for there is not a single line of business which may not be affected by these developments. If transmission of electrical energy can be made more efficient and less wasteful, either through more efficient wires or transmission by radio,

water power resources now too far distant from the location of raw materials or from markets will be developed, and the power transmitted to places of general manufacturing and consumption. A series of changes of this nature might easily disrupt the balance which now exists in industry. Some plants would go out of existence, while others might well be expanded. Risks of this kind are faced by business men everywhere and can only be reduced by careful foresight and up to date knowledge of what is taking place in this and in other fields. Mine mouth consumption of coal for generation of electrical energy would take from many railroads much of their most profitable business and would scrap thousands of power plants. Further electrification of railways is probable in the near future. This means greatly increased demands for some manufactured products and decreased or nonexistent demand for others.

Location of the Electrical Industry.—Two or three of the leading electrical equipment manufacturers have developed large centers of production, such as Schenectady, Chicago, East Pittsburgh and Cleveland. But as a rule the location of these plants has been more accidental than justified by any important considerations. New York and Ohio are leading states in the production of electrical equipment and apparatus of all kinds, each state having more than two hundred plants of this kind; while Pennsylvania, Illinois, New Jersey and Massachusetts have over 100 plants each. Small-scale production is characteristic of the industry, for over two-thirds of all electrical manufacturing establishments in the United States had less than 50 workers, and nearly one-half less than 20 workers per plant. Yet the corporation is the dominant form of organization of this industry. This is explained by the rapid development of industry which has attracted capital from many savers, such investors preferring the corporate form of organization as a rule. The large number of small plants is perhaps explained by this same rapid development.

Printing and Publishing

Importance.—The United States Census classifies six divisions of industry under this general head: job printing, book printing, and machine composition; music printing and publishing; newspaper and periodical printing and publishing; bookbinding and blank book making; steel and copper plate engraving; and lithography. This list is given for the purpose of impressing the student with the vital importance of and the relationship of this industry to other lines of business. A recent printers' strike in New York emphasized the dependence of business upon the daily paper. No less dependent is it on the trade and technical magazine. The vast number of fiction and popular magazines has a great effect on the life of the people. Practically all the force of modern advertising, great as it is, is dependent on the six industries above mentioned. With the increasing level of intelligence of our population has come an increased dependence on this group of industries. Concretely, there are over 13,000 job and book publishing plants in this country. About 160 enterprises print our music. Over 17,000 printing plants give us our daily, weekly, and monthly newspapers and magazines. About 1,100 plants bind our books and 400 make the engravings used by the publishers. About 330 plants produce lithographed material of different kinds.

All in all, the industry furnishes employment for just under a half million people and is thus one of the leading lines of occupation. Over a billion of capital is invested in the various plants, for the machinery used is elaborate and costly. Within recent years the various types of machines for setting type have replaced hand labor almost entirely for this work. Presses used have developed into intricate and costly pieces of mechanism. But only through the use of machinery could the industry have reached its present status, for it has so cheapened methods of production that books, papers, and magazines are available for the masses at a negligible cost. Rural free delivery has been a

great factor in the expansion of the newspaper and magazine phases of the industry, for it makes the prompt delivery of these papers possible while the news they contain is still fresh. Prior to free delivery, few farmers read a daily paper. Now perhaps the majority of white farmers have at least one daily paper delivered to their door, and the news is little older than it is when read by the city dweller.

The Construction Industry

Importance.—In value of product the construction industry constitutes one of the leading industries of the United States. The value of construction, including roads and paving, exceeds four billion dollars in good years, and the number of workers engaged in construction and in the material producing industries runs well up into the millions. In 1923, for example, in 36 eastern states the total number of construction projects initiated reached the surprising total of 111,906 and involved costs in the neighborhood of 4 billion dollars. The Bureau of the Census and the Department of Labor placed the total number of employees in construction industries in 1920 at 2,292,097, while 175,942 are listed as employers and independent workers, making the total engaged in all branches of construction in 1920, 2,468,039.

The rapid development of American industry in general and the rapid increase in our population have given to the construction industry in America an unusual importance. In fact, American industry is peculiarly sensitive to the ebb and flow of prosperity in the construction industry, and it is generally accepted that the enormous amount of post war construction has been a potent factor in sustaining the level of industrial activity in the period.

Kinds of Contractors.—In its organization the construction industry has some peculiar and interesting characteristics. The general contractor, for example, makes a contract with the

owner for a piece of construction work, and under the contract assumes the responsibility for delivering the work in accordance with the specifications. The general contractor's organization is such that he is almost never in a position to undertake the direct employment of workmen, the actual construction of the entire building, and the installation of the equipment. The general contractor, therefore, subcontracts out much of the work; that is, he may contract with a brick contractor for the brick work, with a heating and ventilating contractor, with an electrial contractor, plumbing contractor, etc.[2] However, the contractor generally has such an organization that he can supply the equipment and labor necessary for the direct conduct of a part of the work himself; and in every case the general contractor is responsible to the owner for construction in accordance with the specifications.

There has been a decided tendency in recent years for a specialization of general contractors. Some general contractors confine themselves entirely to residential work, while others may add to their residential work small projects of an industrial and commercial character. Other contractors do not take any constructional residential work whatever, but specialize in the industrial and commercial fields. Road contractors also specialize to a certain extent, some undertaking all types of paving; others, through lack of an asphalt plant, cannot undertake this type of paving work.

Size of the Business Unit.—The size of the business unit in the construction industry varies widely, ranging from the single craftsman who undertakes a small piece of work on his own account to the great corporations engaged in general contract work in such fields as the construction of commercial and industrial buildings, public buildings and works of all kinds, bridge and road construction, etc. Of the 90,100 builders and contractors reported by the Bureau of the Census in 1920, the

[2] Thirty-four sub-contractors assisted in the erection of a library building in one of the larger cities.

great majority are contractors only in a very small way. It has been estimated that there are probably not more than 50,000 general contractors in the United States and that only about 5,000 of these operate on a large scale. Generally speaking, the larger contracting organizations are to be found in the construction of public buildings, educational institutions, commercial and industrial building, and roads and paving; while the smaller contractors confine themselves mainly to the field of residential construction.

The small-scale operation of the great majority of contractors results in the sole proprietorship and the partnership forms of business organization finding substantial representation in the industry. In fields other than residential construction, however, the corporate form of business organization is characteristic.

Many contractors confine themselves to building under contract for others, while many other contractors combine considerable speculative building in the residential field with their contracting work. Since the war the house shortage and the sharp rise in residential values have resulted in much speculative building. The construction industry, like many others, has felt the effects of factory developments. Today much work once done on the construction job itself has been transferred to the factory—doors, windows, and mortar, and now mill products, while stone is cut principally in the quarries. Science and invention have made their contributions not only through the provision of mill equipment but in the form of the steam shovel, the concrete mixer, the asphalt plant, etc.

Many organizations and institutions are working for more economical and effective construction. The Fire Underwriters' Laboratory is reducing the fire hazard while the Bureau of Standards, trade associations, etc., are enlightening the industry as to better uses and methods both in the selection of raw material and in their uses.

Factors Governing Industrial Location

Introduction.—In connection with the above description of certain of the principal manufacturing industries of this country it has been apparent that the location of many of these industries in a definite section or sections has been the result of the operation of certain definite principles or laws which govern industrial location. A consideration of these factors will aid the student in understanding the different forces which locate different industries. Raw materials are fundamental in determining the location of certain types of industries while certain regions have become industrially prominent because their climate is particularly well adapted for certain kinds of manufacturing, because they are well located with reference to specific markets, because there is an abundant supply of labor, because there are railroad centers or in some cases simply because industries happened to be started in certain localities and there is no valid reason why they may not be conducted in these localities as well as elsewhere.

Raw Materials.—The presence or absence of raw materials is of importance in determining the rank of any country in manufacturing, and especially is this true of specific sections of any country. Many raw materials are bulky in proportion to their value. In general such materials cannot be shipped far unless there is an absence of the same kind of material in the distant region to which they are being shipped. For example, brick and common drain tile plants are located in almost every state of the union and almost in every county, for the raw material used is widely distributed, and the value of the finished product is small as compared with its weight and bulk. The same is true of cement but to a lesser degree.

The pottery industry of eastern Ohio was first developed because of the presence of valuable pottery clays, together with

the availability of cheap fuel in the form of natural gas. Furniture was and is manufactured near supplies of hardwood in Michigan, Indiana, and Tennessee. Fruit and vegetables are canned where the raw materials are grown regardless of other location factors. Corn is canned in small towns in the corn belt and in a section of Maine which is said to produce superior sweet corn. Oysters are canned in the Baltimore region where they are produced. Cotton manufacturing is becoming increasingly important in the south nearer to the source of raw material. English woolen industries were first developed because of local supplies of excellent wool. As these supplies became inadequate, England developed superior facilities for supplementing them, for the wool was grown in English colonies and transported on English ships.

Power as a Location Factor.—Industries in which the power cost is important tend to locate in regions where cheap and plentiful power may be obtained. Cheap electricity has been responsible for the location of aluminum manufacturing at Niagara Falls and East St. Louis and for the carborundum factories of the former city. Paper and pulp manufacture is carried on in regions of abundant water power. The Falls of St. Anthony account for the leadership of Minneapolis in flour milling. Glass manufacture is important in Ohio and Pennsylvania because of the presence of cheap natural gas. This factor has combined with the presence of good raw materials to develop the pottery industry in eastern Ohio.

Supply of Capital.—Capital can be more easily secured for a new enterprise in cities where investors and bankers are familiar with the industry seeking expansion because of the presence of other factories of the same nature. This in part accounts for the development of manufacturing in the older sections of the country where capital for investment is more abundant. Interest rates are lower than in states farther west

and investors are willing to assist new enterprises. As the west develops surplus funds more manufacturing will probably be found in that section.

Labor Supply.—Some cities offer exceptionally good locations for certain new factories because of the presence of experienced workers. Akron rubber factories, New England shoe plants, and Michigan automobile factories, have been influenced in their location because of trained men who could be secured from older factories. The presence of the National Cash Register factory at Dayton, Ohio, has made available a large number of men accustomed to working on small machine parts and wheels and to their assembly. It is interesting to note the presence in Dayton of other factories making cash registers, scales, fare recorders, time recording devices, typewriters, etc. From the standpoint of raw materials, capital, power, climate, or market, Dayton offers no superior attraction for these other industries, but it has been able to offer trained workmen. This factor is especially influential when the type of labor needed is relatively immobile. When shoe factories were first located at St. Louis it was hard to induce enough workers to come there from New England to act as foremen. If the plant uses a considerable proportion of unskilled labor, this factor is not so important, for only numbers of workers and not specialized skill need be considered.

Market Conditions.—Many factories must be located with reference to market. This factor has been shown to be important in brick, tile, and cement manufacture. Ice plants and bakeries cannot be far from their market. Attention must also be paid to the location of competing plants and the relative advantage in costs of delivery to large centers of population for the different plants which seek a common market. Savings in cost of delivery may offset favorable factors enjoyed by a competing plant.

Transportation.—Availability of reliable transportation must be considered in plant location. Some raw material must be brought in in most cases, and the finished product must be shipped to its market. Other things being equal, a location where several lines of railroad are available is advantageous. Possibility of harbors being frozen at times must be considered. Several important industries, such as sugar refining and tanning, are located at ocean ports where incoming supplies of raw material are available. Rail rates to principal markets must be considered.

The Effect of an Early Start.—Many industries are located in a certain city or territory because of the accident of an early start in that city. Examples of this may be found in the cash register and allied industries of Dayton, the rubber plants of Akron, the Detroit automobile region, and the shoe factories of the Columbus, Ohio, region. Probably in no case do these cities have any advantage over a dozen other cities, but years ago some manufacturer started in these cities and the industry has continued. Labor supplies are present, capital is familiar with the nature of the enterprise and as other conditions are not unfavorable the industry has continued in the original location.

Climate and Location.—A final factor in location is climate. For most industries a location which avoids extremes of heat and cold yet which has climatic variations is desirable. Some industries must be located with reference to the presence or absence of humidity or in places where the sun shines a large part of the year, or where some other climatic variation is present.

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CHAPTER VIII

THE PRODUCTION DEPARTMENT OF A BUSINESS

Introduction.—The development of manufacturing which has been described in previous chapters has brought with it many improvements in methods of manufacturing. Science has been applied to the solution of problems of factory location and management with the result that wastes which formerly existed have been eliminated to a considerable extent. Factories are located; plants are constructed; men are employed; materials are purchased and stored; plans are made and men are assigned to the carrying out of these plans; machinery is purchased and installed; power is applied, and all other factors are so coordinated as to result in the production of goods with a minimum expenditure of labor and materials. This does not mean that production is perfect, but that as compared with the problems of distribution, including sales, advertising, and the various middlemen's activities, more progress has been made in the solution of industrial problems.

Scientific Management.—The movement known as scientific management has had a good deal to do with the success which has attended production activities. By this term is meant an attitude toward the problems of production which has developed in the last forty years. About 1880, a small group of managers of metal industries in the eastern states began to study critically the methods they were using in their factories to see if these methods were efficient. They began to inquire as to whether failure to reach results was due to the workmen or the conditions under which they worked. Experiments looking to more efficient handling of men and materials were started. The laws of fatigue were studied and wage systems

in use were tested to see if they were equitable. The result of these experiments was the conclusion that industry as then organized was operating at about fifty per cent efficiency.

To make possible greater efficiency certain definite principles were developed and recommended to other employers as worthy of trial in their plants. Among the conclusions reached were the following: (1) To insure that conditions were right for efficient production, management must extend further into the individual workman's methods of performing work. This includes teaching the workers how to perform each task most efficiently, proper planning of the work to be done, proper checking of the results accomplished, and proper methods of wage payment. (2) Planning must be done in detail and in advance of performance; and (3) individual workers must be paid in proportion to work done. This necessitates records of each worker's accomplishment. Wage systems which were developed to carry out this idea are described below. Other contributions of scientific management are discussed throughout this chapter.

Organization Plans.—To accomplish these plans it was discovered that certain changes in methods of factory organization were necessary. Heretofore administration had been carried out through what came to be known as the military or line method of organization. Under this plan, which is as old as the factory system itself, workmen reported to a certain companion worker designated and called the foreman. The foreman reported to the superintendent of the factory and he in turn was responsible to the general manager of the industry. Thus when an order was given to perform certain tasks, it was given by the manager to the superintendent. He called in his foremen or went to each one personally and repeated the order, sometimes subdividing the work between the different groups, allowing each group or several groups to specialize on one part of the task. Foremen then carried the orders to their group of

workers. The advantage of this form of organization is that discipline is easily maintained, for there is no question of authority. Responsibility is easily traced. This method has, however, one great disadvantage which has made its use in modern factories difficult at the present time. As organizations and factories became large, administrative burdens became too great to be carried by the superintendent alone. It was necessary to employ certain specialists such as engineers, chemists, draftsman, employment managers, and welfare directors. There is no place in the pure military type of organization for such experts. It thus became necessary to modify the plan by introducing either the Functional type of organization or the Line and Staff system.

Functional Organization.—The first of these latter two systems takes its name from its basic principle—that of division of duties on a functional basis. Thus each of the specialists mentioned above and others as well, contribute their special bit to the manufacturing of the finished product. These various contributions are coordinated by means of functional foremen. Instead of each worker being under just one foreman he may be under several at the same time. Each foreman directs that part of the worker's task which he is specially adapted to direct. For example, one foreman is in charge of the operation of the machines used; another issues and directs the use of all tools; still another supervises the supply of raw materials; while a fourth checks finished materials and makes out the reports which make possible time and costs studies. The principal advantage of this system is that it allows experts to direct the work of each worker. These functional foremen are not only especially proficient through experience and training in the line they direct, but they report to supervising authorities, as the mechanical engineer, the chemist, the draftsman, or the cost accountant. These specialists issue orders to the functional foremen and they in turn direct all workers.

One important disadvantage is that the functional system of organization makes centering of responsibility for spoiled or incomplete work or for wasted materials, etc. very difficult. That is, there is no one head who is responsible for the work of certain rooms in the factory, or for that of a gang of men.

Line and Staff Type of Organization.—It would appear that a system which would combine the advantages of each of the systems discussed above and would at the same time omit their disadvantages would be highly desirable. This result has been accomplished, it is claimed, by the Line and Staff type of organization. This plan provides for the division of the business into definite parts. Some one official is responsible for the conduct of each such part of the business. Thus the sales manager is held responsible for sales, the treasurer for financial activities; and the warehouse foreman or storekeeper for the proper maintenance of reserve materials. Like the functional system, the line and staff plan provides for certain specialized foremen who instruct the workers. But coordination is more complete than in the functional plan. Thus, for example, the sales manager wishes to produce a certain product which he believes will sell. But the production manager argues that it is not possible to manufacture it at the maximum price set by the sales manager. They may agree to drop the matter, but it may be necessary for the general manager to decide between them. Thus there must be someone in authority who can transmit his orders from hand to hand as is done under the military plan. The line and staff plan is therefore simply a combination of the other two plans.

Plant Location and Equipment.—After having decided the section of the country in which the industry shall be carried on, and the particular city and section of the city in which the plant shall be built, a manager is faced with the necessity of deciding what type of building to erect and what machinery to install. In the case of many new organizations it is necessary to rent

the most available building and make the best possible use of it until a new plant can be purchased or one especially designed for the industry can be erected.

Factory Buildings.—One of the main considerations regarding the building relates to the type of material to be used. In some cases, especially in the large cities, fire regulations compel the use of either fire proof material or what is known as slow burning wooden materials. The availability of materials will decide in many cases. Some new companies will be forced to erect the cheapest possible building—that with wooden frames just strong enough to stand the stress of production, and the frame covered with cheap wooden sheeting or sheet iron.

The shape of the building will be determined to a considerable degree by the type of the industry. Industrial processes have been classified as continuous and assembly. The steel industry illustrates the former. Machine assembly is an example of the latter. In the case of continuous industries, the materials must not be allowed to harden or change their consistency. A plant for a continuous industry must be so laid out as to allow the molten or other material to go from one machine to another without interruption. Flour mills, sugar refineries, and other factories which can move their product by gravity use high buildings so that the material may flow from machine to machine. If the materials are light in weight, as for example textiles, it may be desirable to start the production on the ground level, then take the partly finished material to the top floor to get better light, and later take it to a still different part of the plant.

The second type of industry—that which assembles parts into completed machines—can be carried on in almost any type of factory. Hence, the most common type of building for these industries is square or rectangular, for such buildings are cheaper to construct than those in which the shape is greatly

modified. Often various wings are devoted to the assembly of different parts meeting in the main building for complete assembly. It is also possible to plan factory buildings in such a way as to make future additions comparatively easy.

In order to get the best light it is becoming common to use the saw-tooth type of one story building, the light coming from the north. Direct rays of the sun are thus avoided. Skylights are sometimes used but are not advisable if sufficient light can be otherwise obtained. In multiple story buildings light is secured by using a much larger proportion of the walls for windows than was formerly the custom.

Layout of the machinery in the building is determined in the main by the sequence of operations. Scientific management has contributed much to present day practice in the layout of machinery, but its principles in this respect are beyond the scope of this study.

Modern factory buildings have frequently been modified to make it possible to provide welfare equipment such as showers, cloakrooms, lunchrooms, etc., for the workers. Modern ideas also stress the appearance of the building. Workers are attracted by the opportunity to work in an artistically constructed building surrounded by well parked grounds. The advertising and good will effect on passersby are also important. A final consideration in deciding the type of building to be erected is that of keeping to the standard type for the particular industry involved; this facilitates the sale of the building, should that ever become necessary.

Planning and Routing.—When factory organization became complex as a result of the increased scale of operations, it was realized that some systematic method of planning work must be developed. Foremen were no longer competent to decide what work should be done in their departments each day, nor were they able to assign the proper machines and workers to each task. To accomplish proper coordination of

all operations and to plan what work was to be done and how it should be accomplished, planning departments were established. In a factory which performs one set of operations over and over again on standard material, plans once established need little revision. What is needed can be made by a general committee of the officers or by the superintendent and foremen. In fact, as shown above, the layout of the machines is determined by the work to be done, and little variation can be made without resetting the machinery. Hence planning in certain industries is not as important, as in a plant making a varied product.

But in a plant which does "job work," such as a machine shop, planning is important, for each job presents a special problem. In such an establishment, if it is organized according to scientific management standards, the planning department receives blue prints of the work to be done from the drafting department. The planning department then determines what machines will be used, what raw material will be necessary, and how much time will be needed for the work to be done by each department of the shop; it determines also a time when the different parts shall be assembled to complete the job. Instruction cards are issued to the different foremen and time schedules are announced. The foremen then follow out the instruction cards and the time schedule, sending their part of the job to the assembly or shipping room when it is completed or at the time called for by the time schedule.

Planning Illustrated.—As illustrative of the above statement, consider the planning done in connection with the manufacture of a certain milling machine. When orders are received from the sales department, the planning department issues orders to the production department to start work on certain parts to be used later in the complete machine. The principal need for planning in this case is that different lengths of time are needed for manufacturing different parts of the machine.

Accordingly, the planning department divides the machine up into certain units which are to be assembled, these units together making the complete machine. For example, the bevel gear box and the cover for the box make one unit of the complete milling machine. But experience has shown the planning department that if the cover is started through the shops on February 7 and the box on the 11th, they can be put together on the 3rd of March and together go through certain processes which will prepare them for assembly with other parts on March 29. They also know that if the complete machine is to be assembled on this latter date, it will be necessary for them to start another part—an 18-tooth bevel-gear as early as January 17. Other parts are started on certain dates which will result in their completion and availability for the final assembly on March 29. These illustrations show the detailed work of one phase of the planning department—that of drawing up a time schedule and starting production in accordance with this schedule.

Time and Motion Study.—A further characteristic of modern factory management is the application of data secured by time and motion study to the reduction of waste in production. Time study seeks to determine the proper amount of time which should be consumed by a machine or worker in the production of one unit of output. This standard or correct time is not measured by taking the amount of time which elapses from the beginning to the end of the operation, but rather by timing the separate elementary motions which together make up the operation. If only elapsed time is recorded, results obtained cannot be compared with any other results except those covering operations identically alike. But if a series of motions is studied results may be combined to secure proper time for any operation which is made up of these same elementary motions. Thus the time study expert can and does analyze the time necessary for doing any piece of work just as the chemist analyzes unknown

elements. For example, notice the elementary motions involved in shining shoes in a bootblack establishment.[1] Stop-watch tests were made while one worker shined a number of shoes and the following results were obtained:

Elementary Motions	Average Time Taken
(a) Rub off dust	0.229 min.
(b) Apply cleaner	0.547
(c) Remove cleaner	0.620
(d) Apply polish 1st time	0.239
(e) Polish with brush	0.945
(f) Apply polish 2nd time	0.335
(g) Polish with brush	0.985
(h) Polish with cloth	0.720
(i) Brush clothes	0.228
(j) Make change (take money)	0.420
Time needed per pair	5.268 min.

Although shining shoes is not a factory operation, and it may appear to the reader a very simple process, the method of making a time and motion study for a complex factory process is exactly the same as the method used in this simple example.

After a number of time studies have been made the best results obtained are considered as standard. This time is considered as that of a capable workman working under the best conditions—an ideal situation. Then to secure the proper time to be allotted for the task under consideration—for few jobs can be completed in the ideal time—allowance is made for the different factors which will cause variation from the ideal. Common allowances are made for rest periods, variations in quality of the material, time lost in changing tools, reduction in efficiency of workers just before lunch time and in the later afternoon, and for other variations which can be foreseen.

Early leaders in the movement to eliminate waste in produc-

[1] W. O. Lichtner, "Time Study and Job Analysis," The Ronald Press Co., 1921.

tion found that much loss of productive energy was caused by the fact that workers did not use proper methods for doing the work. Not only were they using awkward methods, but they were using too many motions. Men were simply set to work and allowed to develop their own method of doing the work. No study had been made of the best methods of accomplishing certain tasks. For instance, in the shoe-shining study mentioned above the investigators found that a better shine was obtained by the application of a minimum of polish and a maximum of strength or "elbow grease." Many employees wasted their employer's polish by economizing on the application of strength. It was also found that electric fans could be used to dry the polish more quickly than the old method of waving a cardboard back and forth. Other suggestions were made which resulted in savings for the employees. Similar studies have resulted in similar savings in larger business enterprise and primarily in factories.

Worker's Opposition to Scientific Management.—There has been considerable opposition on the part of workers to the study of time and motion. They feel that such study operates to reduce individual initiative and to reduce the workers to mere slaves, automatons blindly following out instructions given by foremen. They also argue that such studies put the workers under a strain while the study is being made, and that the result of the studies is the setting up of standards which are impossible of accomplishment under normal conditions at fair speed. It is perhaps true that these criticisms have had some basis of fact in the past, but it is not true that the proper application of the results of either time or motion study will operate to handicap or lessen the individual efficiency or status of the working man. Such studies result in the elimination of waste and this benefits the workers as well as the rest of society. Such studies give a proper basis for rewarding each worker in accordance with his contribution to the product of the industry

in which he works—a principle which must be considered as fair. One great and beneficial result for the workers has been the development of modern methods of wage payment as the result of both time and motion studies.[2]

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[2] See Chapter XX.

CHAPTER IX

THE DISTRIBUTIVE INDUSTRIES—FUNCTIONS

Importance of Distributive Industries.—One of the outstanding characteristics of modern industry is production for the market rather than production for one's own use. Even the farmer is far from self-sufficient and relies upon the market rather than upon his own production for the goods to satisfy a majority of his wants. Specialization in production by individuals and by communities and regions is the basis of the development of our complex distributive organization.

Some idea of the importance of the distributive industries is indicated by the fact that several million wage-earners in the United States are engaged in such industries, and that about one person in every twenty in our population is engaged in retail distribution either as a proprietor or an employee. There is one retailer for every three farmers and one for every four factory workers. Merchandise to the value of billions of dollars and aggregating hundreds of thousands of carloads is distributed annually in the United States.

Productive Character of Distributive Industries.—It is frequently said that our marketing system is entirely too complex and that the producer is separated from the consumer by too many middlemen who contribute nothing of value to the merchandise which they handle, and that as a result of this long chain of middlemen, the producer receives but a small fraction of the consumer's dollar. Such assertions are based on a misconception of what production really is. Ice in the Arctic is of no use to the consumer in New York City, and the individual who would transport, store and deliver this ice to the New York consumer in August is just as truly productive

as the individual who might adopt the alternative method of supplying the demand for ice by manufacturing it in New York City. Oranges in California are of no use to the consumers in Chicago. To be of value to them they must be transported, stored, and delivered when they are wanted. The fact that there is a surplus of eggs in April cannot satisfy the craving for eggs in December unless institutions are built up to store the April surplus and make it available when the consumer's demand arises. Those who assist in the distribution of goods are performing just as truly productive and meritorious service as are those who are engaged in activities which change the form of commodities. Both are necessary elements in satisfying the needs of our population. Whether or not too many middlemen operate between the producer and the consumer is open to question, but there is no doubt that much of the criticism of our marketing mechanism has its origin in a failure to comprehend the necessary functions which middlemen perform and the necessity for the performance of these functions, even if middlemen were eliminated altogether.

The Essential Functions.—Seven essential functions are involved in the marketing process. Distributive industries represent the business organization which has been built up for the performance of these functions, namely: demand creation, assembly, transportation, storage, financing, risk taking, and standardization. The necessity for the performance of these functions can best be illustrated by taking the marketing of a commodity, such as eggs, and examining the steps or processes involved in their distribution from the farm producer to the city consumers. The farmer may sell the eggs to a local buyer and shipper of eggs located in a country town. Transportation of these eggs from the farm to the shipping point is involved, and the responsibility for their transportation may fall upon either the farmer or the local buyer. After buying the eggs the country buyer must store them until such

time as he can make shipment. The storing of these eggs involves financing to the extent of tying up the funds of the buyer. The country buyer is also involved in risk taking since the price may decline in the interval between purchase and sale. Demand creation or selling is involved when the farmer induces the local buyer to purchase his eggs, and assembly or buying is represented by the acquisition of the eggs by the local buyer. If the eggs as received are a miscellaneous lot representing a number of degrees of freshness, size, cleanliness, and color, the local buyer may standardize the product by grading or sorting the eggs and combining in particular lots or grades those which are of like quality. As a result, the miscellaneous lots of eggs assembled by the country buyer may, through standardization and grading, go to market under a number of distinct grades.

After the eggs have reached the local buyer they may be shipped to a city wholesaler, and here again transportation is involved; possibly railroad transportation is involved to the city and truck transportation to the wholesaler's warehouse, where they are stored with a resulting financial burden and the assumption of the risk of price fluctuation while they are in the wholesaler's hands. Assembly (buying) and demand creation (selling) are necessary complements to this transfer of ownership of the eggs. If the wholesaler candles the eggs, and he usually does, or employs other tests of quality as a basis for grading, we have a second application of the activity or function of standardization.

The wholesaler may sell the eggs to a retail grocer, and the transfer of ownership is based on the work of salesmen who create demand for the eggs and on the buying activities of the retail grocer. Transportation is involved in the transfer of the eggs from the wholesaler's warehouse to the retailer's store, and the retailer must then provide storage until the eggs are sold, which in turn involves financing, risk taking, etc. After the eggs are sold the retailer may have to deliver

them to the consumer's home and finance the distribution still further if the consumer buys on credit.

The Necessity for the Performance of the Functions.—Even if the farmer sold the eggs directly to the city consumer, the same seven functions would have to be performed. It would be necessary for the farmer to sell (create demand for) the eggs, and the consumer would have to take the trouble to buy the eggs. Transportation would still be necessary, and either the farmer or the consumer, probably both, would have to store the eggs, which would involve the assumption of the financial functions and risk of price changes by the one or the other. Consumers' tastes differ, some preferring white shelled eggs and some brown shelled eggs. Some consumers demand a very high quality and are willing to pay for it, while others are willing to accept a lower quality if a price concession is obtained thereby. In any event, the farmer would probably find it necessary to standardize his product through grading if he wished to retain the patronage of the consumer, or else dispose of his product at unfavorable prices.

An examination of the distribution of any commodity will disclose the fact that these functions must be performed and that the elimination of a particular middleman or of all middlemen cannot obviate the necessity for the performance of these essential functions. The elimination of the middlemen results in a shifting of the burden of such functional performance. Each of these marketing functions is important enough to warrant separate discussion.

Transportation

Transportation in Ancient Marketing.[1]—As we have seen, the costliness and dangers of transportation constituted serious obstacles to the development of trade in the ancient world.

[1] See Chapter V.

Trade was small and economic self-sufficiency was coupled with a low standard of living. The articles of trade were principally luxuries for the consumption of the rich because only the rich could afford to pay the very high transportation costs. Trade organization was very simple and the merchant frequently turned robber on occasion. The merchant commonly supplied the transportation for his wares. In the case of land transportation the merchant owned the pack animals and in maritime transportation ship and cargo were commonly owned by the same individual.

Transportation and Medieval Marketing.—The early Middle Ages, that is, from the "Fall of Rome" to about the year 1000 A. D., as has been indicated, were characterized by a general decline in transportation facilities. As a consequence the commerce of the period was small in volume and distant commerce was limited to rare luxuries. The merchant was frequently a jack of all trades, wholesaler, retailer, transporter, and peddler. Fixed market places were established in a few places, but the difficulties of transportation resulted in the carrying on of much trade by peddlers.

Throughout the later Middle Ages transportation costs continued to impose a substantial obstacle to the growth of trade and profoundly influenced distributive organizations. High transportation costs, together with the onerous restrictions, taxes, and risks to which merchants were subjected, resulted in most markets being more or less local. These local markets took the form of fixed market places referred to above and country people were required to bring their produce to these market places at certain fixed times in order that the assemblage of sellers might result in competition among them which would benefit the townspeople.

By the latter part of the Middle Ages improvements in transportation had resulted in the development of great fairs or markets where merchants assembled from great distances

to transact business at wholesale and retail. Associations of merchants in the form of gilds and the later development of the Hanseatic League were devices by which merchants accomplished, among other things, greater security in the transportation of goods. With the development in transportation, markets were widened and wares from distant lands assumed more and more importance.

Distributive Organization in the Middle Ages.—Even with the growth of trade in the later Middle Ages distributive organization was comparatively simple. The commonest types of tradesmen were the artisan who manufactured the goods which he sold and the peddler who purchased his stock of goods in the town and carried his wares into the rural districts. In the towns were many petty shopkeepers who supplemented their small local business by trips to the markets of other towns.

Even in the case of the larger merchants who maintained warehouses and bought and sold considerable quantities of merchandise at the great fairs at home and abroad, there was no such specialization in trade as we have today. Such merchants ordinarily handled a wide range of goods, and indeed it is questionable if any considerable number confined themselves to sale at wholesale only. A combination of wholesale and retail business was characteristic of the operation of the large merchants. Some of the larger trading ventures involved partnerships, and in some cases trading institutions maintained branch warehouses and were represented in purchase and sale by many agents scattered over wide areas.

Transportation and Trade Organization in the Period of Discoveries.—With the period of discoveries came a great development in foreign commerce, a development which was stimulated by marked improvements particularly in maritime transportation. In spite, however, of the transportation improvements distant trading ventures involved great risks. Distant commerce suffered from the depredations of pirates and

privateers, while trade rivals and savage natives increased the risks of trade. Under these circumstances, it was natural that merchants should associate themselves in order to minimize the hazards of transportation. In fact, European governments required that merchants engaged in distant trading ventures associate themselves, not only to meet the hazards of transportation, but to advance the interests of trade by subjecting all traders to the rules and regulations set up by the association.

In order to assure merchants who built up distant trade at great expense that newcomers should not deprive them of the results of their efforts, governments adopted the policy of granting a monopoly in the trade with each region to a single association and limiting such trade to those individuals who became members of the association. Under these earlier forms of association each member traded with his own capital and kept his profits for himself. Neither capital nor profits were pooled.

Experience demonstrated that such loose associations could not meet the needs of a developing commerce. The result was the organization of joint-stock companies in Italy, and, later in Northern Europe when the Dutch and English East India Companies were organized about 1600. Unlike the earlier associations, the joint-stock companies insured permanence of operation, encouraged the investment of capital by those not actively engaged in trade, and assured the development of definite trade policies and an adherence to rules such as could not be expected in the case of the looser form of association. In fact the joint-stock company presented many of the advantages of the modern corporate enterprise.

Transportation Improvements and the Industrial Revolution.—The Industrial Revolution ushered in changes in transportation which profoundly affected the development of commerce. In fact, the development of manufacturing industries rested upon the foundation of wider markets made possible by

improvements in transportation. Roads were improved and canals were constructed. Sailing ships were increased in size and speed, and later the steam engine was applied to water transportation. Railroads developed and gave to the world the speediest transportation it had yet known. These transportation developments were marked by the growth of many transportation companies as such. Heretofore, as we have seen, most merchants had assumed the responsibility for providing transportation for their own wares. Now for the first time the merchant could rely upon independent organizations to assume the responsibility of freight movement. These revolutionary developments in transportation had a profound influence upon the distributive industries. Through a reduction in the risks, costs, and time involved in the movement of merchandise, markets were greatly expanded. Every improvement in transportation resulted in widening the market. Markets of a purely local character gave way to national and international markets. Commerce in bulky articles, which had been narrowly limited in area by costly transportation, was extended to distant areas. Manufacturers whose scale of operations had been limited by the consumption of local markets were able to sell their goods over wide areas. As a result the manufacturing unit increased in size and production costs decreased. This reduction in production costs and the resulting lower prices greatly increased consumption both quantitatively and qualitatively; that is, consumers were able to buy a greater variety of goods in greater quantities than ever before.

Paralleling the development of large-scale manufacturing, improved transportation facilities encouraged the growth of territorial specialization in both extractive and manufacturing industries.

Widened Markets and Trade Organizations.—The widening of the market and the separation of the producer from the consumer which resulted, together with the fact that con-

siderable periods of time elapsed between production and consumption, were prime factors in the development of our present distribution organization. So long as many markets were purely local, direct contact between the producer and the consumer was often possible, and where there was a necessary separation a comparatively simple distributive mechanism sufficed to bridge the gap. With the widening of the market, however, a relatively complex distributive organization developed to meet the changed conditions. The cotton manufacturers of Lancashire could not sell directly to the consumers in New York, but each had to rely upon the services of many middlemen. Neither the producer nor the consumer, widely separated as they were, could perform the essential marketing functions, but were materially dependent upon middlemen for their economical and effective performance.

In some cases, particularly where the scale of production was small, as in the case of agricultural production, farmers combined in the form of cooperative marketing associations to accomplish, among other things, economical transportation. Middlemen, because of the increased volume of trade in particular kinds of merchandise, became specialists. Merchants in many cases began to confine their operations to the handling of a single commodity of a group of related commodities.

The separation of producers and consumers, referred to above, since it increased the time elasping between production and consumption, had the effect of increasing the risks ordinarily assumed by the merchant, since the greater the time during which he held title the greater the chance of an adverse price movement.

The possibility of moving merchandise from one region to another effected the stabilization of prices. When transportation limitations confined markets to local territories, prices fluctuated very widely with local abundance and scarcity. Transportation costs precluded the movement of goods from regions of surplus production to regions which needed ad-

ditional food. Improved transportation made possible movements of merchandise which prevented local gluts and scarcities, with a resulting price stability.

Transportation and Modern Marketing.—Transportation developments have been fundamental in the creation of the distributive industries as we know them. They have made possible some of the distinctive characteristics of modern economic life, such as large-scale production and territorial or regional specialization in production. The resulting separation of the producer and consumer has increased marketing costs in many cases, but such costs are more than counterbalanced by decreased production costs.

Transportation has become an increasingly important distribution function, and the fact that transportation companies have developed to relieve the merchant of the actual carriage of goods does not relieve him of the assumption of responsibility in arranging for the transportation and in many cases of making important decisions as to the types of transportation facilities to be used. Transportation costs are a large factor in the aggregate of marketing costs particularly in the case of those commodities which have large bulk, such as lumber [2] and the minerals, where in certain instances transportation costs actually exceed the price received by the producer f.o.b. shipping point.

Storage

Essential Nature.—A second marketing function is the storage of goods while they are in trade channels or while they are awaiting sale at the points of production and consumption. Were it possible to eliminate all storage of commodities marketing would be simplified, but under present methods of industrial organization goods must be stored. This is true for a number of reasons. Certain goods are produced only at certain seasons,

[2] See Chapter II.

but it is socially and economically desirable to consume these goods during all months of the year. For example, oranges may be stored on the tree, while they are in transportation, or in cold storage warehouses until the market demands the supply which is in storage. Eggs placed in storage during a period of plentiful production are brought out of storage for consumption during a period of lessened supply. Fruits and vegetables are canned and preserved during a very short season but are consumed the year round. Iron ore from Minnesota must be stored at lake ports or in the storage yards of blast furnaces for use during the winter months when lake transportation of the ore is impossible. Coal must be mined and sent to the northwest in readiness for the principal period of demand, a period when lake transportation is impossible.

One characteristic of modern economic life is the wide space separation of producer and consumer. Our daily diet and the articles we use in our daily life are produced, in many cases, thousands of miles away and in some cases on other continents. In order that we may have these goods for our use it is necessary to bring them to our home cities. If the dealers in these commodities attempt to meet all demands, they must store a reserve supply, for demand is not stable in general. The amount demanded fluctuates from week to week and from month to month, and the extent of such fluctuations cannot be accurately foretold. Hence the local dealer, the wholesaler from whom he buys, the importer, the foreign dealers, and in fact all middlemen engaged in the distribution of the product must store varying amounts of the commodity.

Services of Storage.—A considerable part of the demand for storage facilities grows out of the fact that shipment in carload or boatload lots is often desirable because of the lower rate which applies to large shipments. If a grocer buys a carload of flour in order to cut his freight costs, a part of the flour must be stored in his warehouse. If an eastern manu-

facturer ships a carload of phonographs to Kansas City in order to get a carload rate and places a large part of the shipment in a public warehouse to be held there until orders from dealers are received for the instruments, storage facilities are necessary. When a druggist buys a gross of an article in order to get an additional discount for the quantity purchased, demand for storage facilities on his shelves or in his warehouse is thereby created.

Storage is also necessary to relieve a condition of over supply in certain regions. Fresh fruit may be available in one market in amounts far greater than the demand for the fruit at a fair price. By placing a part of the over supply in storage it may be held a few days until changing conditions of supply make it possible to sell it at a profit. Merchants are forced to buy goods in quantities larger than their immediate demand justifies, and these goods must needs be placed in storage. The attempt of many merchants in recent months to increase their rate of stock turnover by buying goods in small quantities has passed the storage costs back to the wholesalers and the manufacturers, for if retailers do not carry surplus stocks in reserve the other distributors must do so. Manufacturers must carry a certain reserve stock at all times and this means the provisions of storage facilities. Orders are usually not placed far enough in advance to allow manufacture of the goods called for after the order is received. One typical manufacturer keeps parts of his finished product in reserve in all stages of manufacture, for it takes this factory from 3 to 4 weeks to complete the article being manufactured.[3]

Limitations on transportation increase the amount of storage which must be done by marketing agencies as a part of the marketing process. When deliveries from a wholesale house can be made on 24 hours' notice or less, a merchant can

[3] A large soap manufacturer stores goods in twenty cities in either his own warehouses or in public warehouses in quantities equal to 4 months' demand from the territory thus served. A cigarette manufacturer stores 2 months' sales at the factory and 4 months' supply in public warehouses over the country. A breakfast food manufacturer stores an average of 6 months' supply in two Chicago warehouses.

operate on a much smaller reserve than when it is necessary to place an order some weeks in advance of the delivery date. Much storage is carried on for this reason. Another reason for storage is the desire of many producers, or middlemen, to hold goods for a higher market. Farmers do not always wish to sell their grain directly from the threshing machine and hence must provide granaries in which to store it while awaiting a higher market. Local shippers of live stock may not wish to ship their purchases as fast as they are delivered by the farmers and hence must provide feeding pens, feed, and water, while the stock is awaiting shipment. Operators on central grain and cotton exchanges must have available public elevators and warehouses in which to store the grain which they have purchased but which they desire to hold for a possible higher market. These and other possible examples all go to show that storage is an important and necessary part of marketing as it is at present conducted.

Storage Facilities.—The need for storage has resulted in the provision of certain special facilities. Refrigeration used in cold storage warehouses, by wholesalers and retailers, and by railroad companies in connection with their use of refrigerator cars, has made it possible to store perishables for considerable periods of time without great deterioration. Goods which need heat have it provided in other types of warehouses. Lumber is seasoned while in storage, and by proper control of temperatures fruit is ripened. The study by trained plant pathologists of the forces causing decay of stored fruit has resulted in the development of methods of preventing such loss. The study of furs has shown the methods that should be used in storing them to keep them in best condition. Modern methods of vermin protection decrease the risk of storing grains. Grain elevators have facilities for cleaning grain to keep it from heating while in storage. Application of different methods of gravity handling of grain by modern elevators reduces the cost

of physical handling of stored grain and thus increases the amount of grain which can be profitably put in storage. When definite grades were established for grain, it became possible to store it in great bins in the elevators, for the grain of a number of owners could then be mixed.

One further fact accounts for the increased amount of storage of all kinds of commodities in recent years. When a nation or section of a country is economically new or undeveloped, available capital is usually relatively scarce and must be used for the most necessary purposes. These are usually those connected with production. Little capital is available for storage of commodities, since storage demands the investment of capital in warehouse facilities and also makes it necessary for capital to be invested in the commodities stored while they are in storage. But as a country develops the necessary surplus funds become available. Thus many commodities are made available over longer periods of the year, and the prices of many other articles fluctuate less widely because of the lengthened period of consumption.

Cost of Storage.—Millions of dollars' worth of all kinds of commodities, raw, semimanufactured, and manufactured are in storage at all times in the United States. There are necessarily certain costs connected with this storage, for facilities must be provided and capital must be invested in the goods in storage. Who pays this cost? This can be best answered by pointing out that the cost does not fall on any one factor in the distributive plan. It is not borne by the manufacturer, the wholesaler, or the retailer alone, nor does it fall on the producer of the raw material itself. Rather it is distributed all along the line of distribution. Each factor has as a part of his cost of handling the goods a certain amount which must be charged to storage. The wholesaler adds just a little to his bill sent to the retailer because he must store his stock in trade. The retailer has rent to pay, heat to furnish, and ice to buy because of the

necessity of storing goods, and hence he must consider these costs in determining his total costs of operation. Thus all storage costs are passed on ultimately to the consumer who must pay the entire bill of storage just as he must pay all other bills connected with putting goods in his hands for his use. But in spite of what has been said it sometimes happens that prices are reduced through storage. This will be considered below when the effect of storage on prices is discussed.

Reduction of Storage Costs.—One of the costs of storage which has been emphasized above is that which grows out of the investment in goods in storage. In order to reduce this cost to the minimum, methods have been developed whereby the function of financing can be passed on to specialists in that business—the banks. When goods are placed in properly equipped elevators or warehouses owned by responsible business firms, warehouse certificates are issued to the owners of the goods. These certificates are simply a receipt of the warehouse or elevator owner stating that he has received for safekeeping so many bushels of wheat, bales of cotton, pounds of copper ore, barrels of apples or what not and that on demand he will deliver the same articles, in good condition. This receipt or warehouse certificate then becomes available for use as collateral for a loan, for within certain limits it is a negotiable paper. Banks are willing to lend to owners of commodities who can present warehouse certificates as collateral, for possession of the certificate gives possession of the goods and the banks are thus protected. The amount lent is always less than the market value of the commodities in storage, for prices may drop and the banks must have sufficient margin to protect their loans. Banks sometimes loan up to 80 per cent of the value of the goods stored. In this way financing of stored commodities is passed to those who are best equipped to handle it.

Storage companies which provide standard equipment for all comers have been developed to reduce the costs of storage.

Many firms do not wish to provide storage facilities for their reserve stock or for all of it and hence use public warehouses furnished by storage companies. Other concerns may have a sudden need for storage but no facilities and hence use a public warehouse. Many other concerns rather than provide warehouses in the various wholesale centers of the country keep the reserve stocks, which they must carry in these centers, in public warehouses. This phase of storage has been developed by the ability of public warehousemen to act as freight forwarders; that is, to receive and hold freight or express until they are told where to ship it by the owner.[4]

Risk is a definite cost of storage. Risk of price fluctuation is always present but may be reduced by hedging.[5] Risk of deterioration may be reduced by proper precautions on the part of the warehouse company, or by the owner himself. Risk of obsolescence is present to a greater or less degree, depending on the style and novelty of the goods in storage. This can be reduced by use of certain methods or precautions which are explained below.[6] The risk involved in storage is often shifted to the persons or institutions which can best handle it, or to those who prefer to assume risk because of the possibility of reward. Storage of commodities always involves some risk. This risk must, in the long run, be compensated for by profits from storage.

Storage and Prices.—The effect of storage on prices may best be discussed by a few examples. In the field of perishables the effect is perhaps the most marked. Were it not for the possibility of storing perishables for varying lengths of time, a glut in one market would reduce the price of the commodity in that market during the period of the over supply. It is often true that when prices in a certain market are low because of an over supply of a perishable commodity, shippers of that product

[4] See Chapter XXIII.
[5] For explanation of the use of hedging see any standard text on marketing.
[6] See Chapter XXVI.

hesitate to send later shipments to that market. Hence the supply is low and prices are high. The net effect is to keep the average price somewhat higher than it would be if an even supply of the commodity were available. By placing a portion of the over supply in storage the supply can be somewhat adjusted to the demand, and the average price received by the producer may be thus increased. Some consumers may lose the chance to buy certain quantities of the product at a very low price, but it is felt that the best interests of the consumer are served by such an adjustment of supply and demand as to allow all consumers to buy their supply of perishables at a fair price at all times. The provision of proper storage facilities also tends to prevent a part of the waste of actual spoilage of perishables and hence makes more units of the article available for consumption. Eggs will illustrate this point. Purchases made by speculators or dealers in eggs keep the price of eggs from falling as low as it otherwise would in the spring months. But over perhaps one half of the year the addition of the supply of storage eggs to the supply of fresh eggs greatly reduces the price to the consumer. Both the producer and the consumer benefit from storage of eggs for this reason. The same idea applies to other perishables in varying degrees.

Storage reduces the risk of dealing in merchandise of many kinds, for if it cannot be sold at once, it can be placed in storage. This makes it possible for merchants in these lines to do business on a smaller margin than would be possible had they to assume additional risks arising from the absence of storage facilities. Smaller margins of expense mean lowered prices to the consumer.

Storage of manufactured goods makes it possible for production to be equalized over the year. Recognition of the safety of warehouse certificates as collateral by banks makes it possible for manufacturers to finance production over a period when sales are slack. By equalizing production over the year costs are reduced, for a much smaller investment in buildings

and machinery is necessary when production is regularized. Labor is more certain and more valuable, for it is trained for its job; and in general it is willing to work for less money, for employment is steady. Thus the possibility of storing manufactured goods reduces manufacturing costs.

Social Effects of Storage.—Storage of commodities has certain definite social effects. The standard of living is increased as a result of distributing the supply of perishable and semi-perishable commodities over a longer period. Larger production is possible, which results in making many articles available at a reasonable price for persons whose economic position would not justify the use of these articles were the price not reduced by storage and by increased production which is the result of storage. Fruits and vegetables illustrate this point. Shifting of the price risk by hedging by wheat millers and cotton manufacturers reduces the cost of flour and of cotton fabrics, and makes their larger use by many persons a possibility.

The use of proper storage facilities reduces the loss from spoilage of many perishables and makes these articles available for consumption. At the same time the over consumption of cheap goods is reduced. There is a distinct social value in reducing the loss of articles which have been produced and in reducing unregulated, irresponsible, and often injurious consumption of articles which could better be held for consumption at a later period. All in all it may be said that the provision and conduct of modern storage facilities is a very important function of the marketing organization.

Assembly

Assembly of Farm Products.—Assembly as a phase of marketing involves the bringing together at one place of a number of articles produced by different persons or firms. In the field of farm products the assembly function is performed

by the marketing agency which brings together or concentrates articles from a number of different farms. The cream station of the typical middle western town concentrates and ships in economical quantities the daily cream production of a number of farmers. The cash buyer of poultry purchases a crate of chickens, the smallest unit for profitable shipment, from several farmers. Eggs from a hundred or more farmers may be concentrated in quantities for shipment by the country grocer, who takes the eggs in trade for groceries. The local hog buyer combines the hogs of several farmers in the same car and sells them in carload lots. Grain buyers combine in the same car grain purchased from a number of farmers. When farmers ship through cooperative associations, the same assembly function is performed, but the farmers perform the service for themselves through their own shipping association.

Retail Assembly.—Another illustration of the assembly function comes from the retail field. The average grocer or druggist has on his shelves the products of several hundred manufacturers. He has assembled these products from many states and holds them on his shelves until his customers call for them. To be sure that he has the articles which his trade will call for and that he has them in proper quantities the merchant must study the buying habits of his customers. After determining what articles he must carry the merchant must place orders for these articles either through wholesalers or directly with manufacturers. In either event the merchant has performed a definite service for his customers, for he has located the source of supply of the articles his customers wish to buy and has placed them on his shelves so that a housewife who decides that she wants a certain article for dinner, can in a few hours or minutes have the article delivered to her kitchen. Were it not for the fact that the merchant has assembled the articles and that he has stored them for her, she would be forced to decide days or even weeks before using the article that she

would need it on a certain date, and place an order with the manufacturer for this article. She would be forced to know the location of hundreds of manufacturers and be forced to send many letters to the manufacturers asking that a small quantity of their product be shipped to her. Not only would this practice demand much foresight and much time for writing orders, but transportation costs would be greatly increased because of the small quantities shipped to individual consumers. The merchant thus performs a definite assembly service for his customers.

It is, however, not necessary for the grocer to send orders to all the manufacturers whose goods he sells, for he can order practically his entire stock from the salesman of one wholesale grocer. It is the wholesaler's function to assemble the goods of manufacturers in large quantities and to resell these goods to the retailers in small quantities. Thus the buyers for the wholesaler perform the assembly function for an entire community or for a group of communities. This results in real economy in assembly.

Assembly by Manufacturers.—Many articles are assembled for use by manufacturers. For example, the manufacturer of refrigerators uses the finished products of a number of other manufacturers. Hardware and paint are examples. The manufacturer of refrigerators may buy these articles directly from the people who make them, or he may buy them from a wholesale or retail hardware dealer. In either case he is performing an act of assembly in making these articles available in easily usable form as a part of the refrigerator. Perhaps the best example of this kind of assembly is the manufacture of automobiles which generally involves the assembling of parts and accessories from a considerable number of manufacturers. In general manufacturers assemble a large variety of unfinished or semi-finished materials from a variety of sources for use in manufacturing their products.

Assembly and Specialization.—The assembly function has been increased in importance by the fact of territorial specialization. Production of certain articles, as, for example, early vegetables in certain sections blessed with the right kind of climate, has made it necessary for a considerable number of middlemen to intervene in getting the vegetables into the hands of the consumers. A part of the work of these middlemen is the assembly in one place of vegetables from a number of different sections of the country. Specialization in manufacturing causes a like increase in the importance of the assembly function of marketing.

Economies of Assembly.—Some of the economies of assembly have been suggested above. It is far cheaper and far better for the hogs of a number of farmers to be combined into one carload for shipment than for one farmer to be compelled to hold his hogs until he has a complete carload or be compelled to ship in less than carload lots. The same is true of the shipment of grain, fruits, vegetables, etc. The economy of assembling by the retailers and wholesalers was suggested above. Modern department stores are an extreme example of the economy of large-scale assembly by modern retailers, for the owners of department stores assemble not only the products peculiar to one line of retailing but those of a dozen or more lines, and thereby make it possible for a woman buyer to shop nearly all day under one roof and to buy most of her purchases from one firm and on one charge account. Department stores have certain competitive advantages and disadvantages which will be mentioned later, but they do illustrate the extreme application of the assembly function, as do mail order houses.

Standardization and Grading

Scope.—Standardization is becoming an increasingly important part of the work of the various marketing agencies as

the importance of the establishment and observance of standard market grades is recognized. Grading involves the bringing together of like articles and the classification of these articles on the basis of established grades or classes. When the local stock buyer assembles cattle from a number of farmers for shipment, it is frequently necessary for him to divide the cattle into several classes or grades to meet the demands of the central live stock market to which the cattle are to be shipped; for the buyers on this market do not want just cattle. They want either feeders or cattle which are ready for immediate slaughter. In some cases these classes are subdivided on the basis of either weight or age and sex, and sometimes a third class, "canners," *i.e.*, very old and thin cattle, are selected.

Local buyers of fruit and vegetables separate their purchases into various distinct grades. For example, boxed apples are divided into three classes: Extra Fancy, Fancy, and C grade apples. And each of these grades is further divided into a dozen or more subdivisions on the basis of size. Lumber is classified on the basis of variety, length, thickness, and width as well as on the basis of freedom from knots and other defects, and as to its state of greenness or seasoning. Coal is shipped under very definite standards. Wheat is divided into six classes each of which is subdivided on the basis of quality.

Drugs are sold on the basis of chemical analysis. Canned peas are sold in six classes on the basis of size. Some corn is sold on the basis of color, but moisture and weight form the basis of other grades of corn. Tobacco is graded in part on its flavor, as are tea and coffee. Hides and skins are graded on the basis of geographical origin, and canned fruits are graded on the basis of the quality of syrup which they contain. These illustrations suggest some of the many bases of grading raw and semi-manufactured articles.

Standardization and Simplification.—Standardization is a term used in connection with the grading of manufactured

articles. As manufacturing became more complex it was seen that certain standards must be established. For example, manufacturers of screws found it desirable to establish a standard number of threads for each size of screws. Certain standard sizes and widths of shoes became necessary. Definite sizes became necessary when the first ready-made clothing—uniforms for Civil War soldiers—was made. Standards of quality for manufactured goods became necessary, as in the case of drugs and food articles. But it was not until comparatively recently that the great savings which follow the use of interchangeable parts for machinery became possible. Consider what the situation would be were automobile tires not interchangeable, or if the automobilist were compelled to secure a special dust cap or valve stem for his particular make of tire. Standardization of design allows the farmer to order a replacement part for his plow or grain binder by number and to know that it will fit when it is installed in the machine.

Simplification of manufactured products has paralleled the development of definite standards. This development is illustrated by the experience of one of the principal makers of men's collars who discovered that his company was making over 30 models of collars and that dealers were practically forced to carry all the models in stock and a complete size range for most of the collars. Study of the sales records showed that over 80 per cent of the sales were in four models. The company therefore decided to feature only those 4 models and gradually to stop the manufacture of most of the other models. This cut manufacturing and storage cost for the maker and allowed the dealers to reduce their stock of collars accordingly. One of the principal makers of hats found that in the year 1922 he was making 3,820 different models of soft hats.[7] This tremendous number of styles or variations of styles was caused by the policy of allowing salesmen to accept orders from retailers which called for slight variations from standards.

[7] *System Magazine*, January 1925, page 29.

Manufacturing cost was unduly large for each order amounted to a special lot of hats to be run through the factory. A manufacturer of men's clothing cut his line from 150 models to 24 and reduced the cost to the retailer and consumer about 25 per cent. A stove manufacturer found that he was making several hundred types of stoves, each of which was but slightly different from many of the others. He made great savings by cutting the number to a dozen or so. The simplification movement illustrated by these examples is but starting, but has great possibilities in its effect on future manufacturing and retailing.

Economies of Grading.—Grading of both raw and semi-manufactured commodities results in several worth-while economies. One is in the possibility of selling by sample or by description, when grades are fully established, rather than by actual inspection of the goods to be sold. All cash transactions on the Chicago Board of Trade are made by inspection of samples of grain for sale. Licensed samplers take a fair sample from each car, and these samples are displayed on the floor of the exchange. Western apples and citrus fruit can be safely bought on the basis of the grade without even a sample; for grades have been so definitely established and are so carefully enforced that purchase of a car of apples by telegraph is feasible. When the apples are delivered two or three weeks later they will be just what the buyer had in mind when he bought a certain grade of boxed apples. The establishment of definite grades for grain, cotton, sugar, and certain other commodities has made reduction of risk in holding them for future sale possible, for grading makes hedging possible. Banks are more fully secured when they loan on goods in storage when the goods are graded according to accepted standards; for the bank knows exactly what the goods are, and sale of the articles is made easier if the bank is forced to sell them to secure payment of the loan. Transportation costs are reduced by the establish-

ment of grades, since the products of a number of farmers can easily be combined in one car without separation by partitions or otherwise; for when the goods are graded the identity of each man's product is no longer of importance. Storage is facilitated when goods can be mixed without reference to ownership; for if grades are established, it is not necessary to keep the cotton or grain separated by owners in the warehouse or elevator.

But perhaps the greatest economy which follows the use of definite grades is in the larger market which is available. Danish farmers sell quantities of bacon, butter, and eggs in England because English buyers have confidence in the standards which Danish farmers apply in grading their products. Western fruit owes a good part of the sale which it has in eastern markets to the careful grading to which it has been subjected before shipment and to the reluctance of many eastern producers to grade as carefully or as reliably. A well known brand of cranberries is sold all over the United States because people know that the trade-mark means something and advertising has made the brand popular. If the cranberries sold under the brand name were not always of uniform quality, the advertising would not be effective. In general farm products sell easier and for more money when it is known that they have been carefully graded and that a certain grade is always an assurance of quality. When the grade is used in connection with an established brand, the articles commonly sell still more easily at higher prices.

Grading Not Universal.—When the above facts are considered, the question of why grading is not always carried out may well be raised. One of the principal reasons in the case of farm products is the inertia and reluctance to change which is characteristic of many farmers and dealers in farm produce. They do not realize that it is a saving in the long run to grade potatoes and throw the small ones away or use them for hog

feed. They can see only the fact that a certain number of bushels of potatoes are taken off the market and cannot see that the remaining graded potatoes will sell for more than the total number of bushels of ungraded potatoes. Apple growers have been slow to see that it pays to thin excess apples from the trees and thus aid in the production of larger and better colored apples which will meet the demands of the trade. These examples are typical of the forces which hold back the grading of farm products.

In the case of manufactured products, standardization and simplification are retarded by the desire of individual consumers for differentiation. The hat manufacturer referred to above must not go too far in simplification of styles and colors, for hat buyers do not wish hats which make the buying of a certain brand of hat equivalent to putting on a uniform. Individual tastes demand expression.

Another factor which makes for lack of simplification of manufactured products is the position of the small manufacturers, many of whom cannot compete with their more fortunately situated competitors, whose costs for the production of standard articles in large quantities are considerably lower. These small manufacturers, therefore, encourage special individual orders, for they give them a chance to continue in business which they would not otherwise have.

Agencies Favoring Grading and Standardization.—Among the forces which are encouraging grading of raw material and standardization and simplification of manufactured materials are the great commercial bodies of the United States and of other countries. The United States Chamber of Commerce[8] has been especially active in encouraging reductions in the number of models, types, and varieties of manufactured products. The different trade associations have done much in their respective fields to accomplish the same end. Organized

[8] See Chapter XXVII.

exchanges in the grain and cotton trades have been of influence by insisting on proper grades for the commodities dealt in on the different exchanges.

In the farm products field, the Farm Bureau, the Grange, and other bodies have encouraged farmers to set up and maintain careful grades and have endeavored to show the farmers the evil results of sending ungraded or improperly graded commodities to the markets. The desire on the part of producers and dealers for authentic grades has resulted in the setting up of standard grades for some commodities by the federal government through the Department of Agriculture, and in the establishing of grades by the states for other commodities.[9] The Federal Department of Agriculture through the Bureau of Markets has cooperated with the state marketing officers and with other state officials in enforcing grade rules which have been established and in rendering the inspection service which is an important factor in the operation of any system of grading.

It is felt that the increasing recognition of the value of careful grading of all kinds of products will result in the elimination of some of the wastes of marketing which have been apparent in the past because of the failure of many people engaged in both production and distribution to recognize the importance of grading in the reduction of marketing wastes.

Risk

Risk Cannot Be Eliminated.—Risk is an element in all businesses. Especially is this true of the conduct of the business operations connected with the distribution of both raw and manufactured commodities—that is, with marketing. The various marketing agencies must, in general, own the commodities with which they deal. Ownership involves risk. Marketing risks are of several different kinds and not all kinds

[9] For a description of how grades are determined for a special commodity see Maynard, "Marketing Northwestern Apples," pages 79-82.

apply equally to the marketing of all products; but some risk is inevitable. This is true because of the failure of civilized man to develop any method by which future conditions may be foretold. No one can tell exactly what prices will be even a few months in the future. Production, especially of farm crops, is an uncertain process, which may result in a surplus or a deficit of needed commodities. The tastes and desires of the public for consumption goods vary from time to time and cannot be accurately foretold. Hence any one who is dependent on the public demand for consumption goods, and most marketing agencies are, assumes risk when he buys commodities for an uncertain sale. Goods purchased for resale are subject to physical deterioration, and many commodities are subject to lessened value or even total obsolescence because of rapid style changes. Separation of time and place of production and consumption adds to the risks of modern marketing. In short, the assumption of risk is one of the functions of modern marketing agencies, and these agencies must be compensated for assuming risk. It is therefore one of the costs as well as one of the functions of marketing.

Modern business methods have resulted in the reduction if not the elimination of some of the risks of marketing. By market analysis, by business forecasts, by style studies, by hedging, and by the exercise of good business judgment as well as by other methods to be discussed more fully in a later chapter,[10] the element of risk has been reduced to a considerable degree. But in spite of all modern business can do the assumption of risk is still one of the important functions of marketing. All distributors bear a part of the risk of producing and distributing goods. Goods manufactured may never be sold, or may remain in the warehouse so long as to reduce the profit from their sale to little or nothing, because the sales department of the factory is not properly organized or manned, or because the sales department did not sense coming changes in demand. Goods in

[10] See Chapter XXVI.

the warehouses of the wholesaler or in the stock rooms or on the shelves of the retailer may not sell except by such a great reduction in their price as to cause actual loss. Physical deterioration may reduce the value of the goods. Fire may consume them or thieves may steal the goods. These and other risks must be borne by the various marketing agencies. In spite of the fact that institutions such as insurance companies have been organized to bear these risks in part, they still remain a cost to the business, for premiums must be paid.

Finance [11]

Necessity of the Finance Function.—Not the least important service rendered by marketing agencies is that of financing the marketing operations. As shown above in connection with the discussion of risk, marketing involves ownership of the commodities sold.

Finance as a marketing function has become of increasing importance as marketing organization has become more complex. Increase of the time and space which intervenes between the producer and the consumer has made it necessary for funds to be invested in commodities for a longer time than formerly. When a market gardener took his produce to a nearby city and sold it for cash the same day it was taken from the garden, he had little cash investment in his produce. He had perhaps invested small amounts in seed, fertilizer, rent on the land, and perhaps in hired labor, but these amounts came back to him in a comparatively short time. But under modern conditions our vegetables may come from distant states and may have passed through the hands of more than a half dozen middlemen, each of whom has owned the produce for a shorter or longer period. Each of these middlemen has invested certain funds in the produce, and each must have

[11] For a fuller discussion of methods of business finance see Chapters XVI and XVII.

a certain return for his investment as well as for his risk and his physical services in transporting, grading, and handling the produce. Under other systems of marketing farm produce, the farmer may not receive anything for his produce until it has been sold to the final consumer. The funds in such cases have passed through several hands before they have finally reached him. In the meantime the farmer was forced to finance himself and meet his various expenses as best he could. He naturally must have had a larger return for his services than when goods were sold direct. Under present-day cooperative marketing systems, farmers may not receive their entire pay for their crops until the wheat or strawberry pool has been closed after all shipments have been made and all returns have been received.

Seasonal production also increases the financial burdens involved in marketing farm produce. In certain of the wheat states, for example, it is customary for farmers to sell their wheat in one lot soon after threshing; that is, they receive cash income from farming operations but once a year. They have therefore been accustomed to running bills at local stores and paying these bills but once a year. This has increased the financial burden of conducting retail stores in such localities, for unless the retailers can reach an agreement with their wholesalers to pay them but one a year, they must have a large investment tied up on book accounts during the larger part of the year. If the burden is passed back to the wholesaler, or if he passes it back to the manufacturer, the cost still exists.

Financing the Sale of Manufactured Goods.—Distribution of manufactured goods involves financing just as does the marketing of raw materials. Wholesalers and retailers must usually pay for goods received before they sell them. They must have a certain amount of permanent capital invested in fixtures, equipment, and supplies as well as in merchandise. However, both wholesalers and retailers expect to and usually

do sell many of the articles they purchase before they are compelled to pay for them. To the extent that this is possible they relieve themselves of the direct cost of financing this part of their sales, but the burden is simply passed back to the supplier, be he manufacturerer or what not. The manufacturer must pay for raw materials and meet his payroll. If he finances wholesalers it must be from additional funds invested in the business and for these funds he must receive an adequate return. As a matter of fact, the system operates in such a way that in most lines of merchandise the manufacturer sells to wholesalers on 30 days or more time; the wholesaler gives the retailer at least as much time to pay for his goods, and many retailers give consumers the same period of time for making payment. To reduce the investment of each type of distributor it is common practice for each to offer a certain per cent off the bill as a reduction for cash payment or for payment within 10 days. This reduction is known as "cash discount." It is offered partly as trade custom and partly to induce earlier payment of bills. The custom is not commonly used in retailing, however.

Methods of Market Finance.—To lessen the amount of their own capital investments, distributors frequently borrow from commercial banks. A retailer wishes to put in a fine line of men's clothing for the fall trade, but knows that he does not have enough cash to pay for the portion which will be unsold at the end of 30 days, when he must pay the manufacturer for the clothing. He therefore arranges with his bank to lend him the money he needs, giving as security his personal integrity and reputation as a business man, supported in some cases by a financial statement showing the condition of his business. In some other cases he gives definite collateral or other security.[12] As the goods are sold the money is made available for paying off the loan. This transaction is typical

[12] See Chapter XVII.

of thousands that take place every day, for the great majority of retailers do not have cash investment equal to the stock on their shelves. They must be jointly financed by wholesalers and manufacturers and by bankers. Many supposedly independent retailers have been financed by wholesale houses to such an extent that the merchant is virtually the agent of the wholesaler, and although the business is operated under the merchant's name, it is really owned by the wholesaler. This is especially common in the grocery business, where wholesalers frequently finance merchants in order to get additional sales outlets for their private branded goods.

Another phase of market finance is the service of marketing agencies in financing production. Wholesalers sometimes make advances to new manufacturers or to those who are in financial difficulties and because of this advance are able to dictate the terms at which they may purchase the product of the manufacturer. It is a common practice for grocery wholesalers to advance cash to fruit and vegetable canners in order to make it possible for the canners to operate. The wholesaler is secured by a contract from the canner forcing him to deliver his pack to the wholesaler. The same system is used in salmon canning. Cash shippers of fruit and vegetables and wholesalers in the central markets frequently make cash advances to growers of these products to enable them to produce the fruit. The cash is used by the growers for purchasing spraying material or fertilizers, or containers for the produce, or for hiring labor, and for their personal expenses. Advances of this kind are normally secured by a chattel or crop mortgage which gives the agency which has made the advance control over the produce when it is ready for market. Frequently, however, only an open book account is used, but it is understood that the produce must be sold to the person who has made the advance. The same practice is common in certain of the southern cotton regions.

Demand Creation

A Necessary Function.—One of the most important functions of marketing agencies is the creation or stimulation of consumer demand for articles which are for sale. For the great staple articles a certain amount of demand exists without stimulation by manufacturers or retailers. But even for such articles additional consumption can often be encouraged by use of personal salesmanship or by advertising. Recent campaigns using the slogan "Eat More Bread" are illustrative of this point to the extent that they emphasized the food value of bread and the desirability of substituting bread for other articles of diet; the campaigns increased the demand for bread and for flour, its principal constituent. Manufacturers of particular brands of flour compete for consumer purchases and carry on advertising campaigns in part designed to increase the consumption of flour, but more particularly to increase the sale of their particular brand. Even such a staple article as iron has been successfully advertised and demand for iron in part changed to a demand for a particular brand of iron; for example, Armco iron. The great field for demand creation and direction, however, is in the specialty articles, where the consumer must first be sold on the idea of using one of the general class of articles and then encouraged to use a specific brand. Farmers have been convinced that they should have electric lighting plants and they have then purchased a particular kind of plant. Merchants in many cases must be convinced that an investment in a cash register is desirable, and then must be convinced that a particular make of register is the one they need. Housewives must be shown that they need vacuum cleaners or an electric refrigeration plant and then through advertising or personal salesmanship some particular brand of cleaners or refrigerators.

There are three principal agencies used for creation of demand: the word-of-mouth advertising of successful users

of a product, personal salesmanship, and formal advertising. The first of these forces cannot be definitely controlled by the manufacturer of a specialty and is uncertain in its effect and value, but the conduct of the other two methods of demand creation, salesmanship and advertising, is one of the most important phases of business; and in the case of perhaps the majority of specialties as distinguished from staples, it is the most costly and the most important of the marketing functions carried on by the manufacturer of the specialty.

Personal Salesmanship.—The importance of personal salesmanship as a factor in marketing needs no emphasis other than reference to the thousands of men and women who make their contribution to our economic life by selling various kinds of commodities. These can be divided into three classes of salesmen. One class represents manufacturers and wholesalers, sales agents, brokers, commission houses, etc., in the sale of articles to retailers. Sale of staple articles is usually a matter of price, terms, delivery, service, etc., but sale of specialty articles to retailers involves the necessity of convincing the retailer that he should carry a certain article in stock and at the same time showing him how to stimulate the sale of the article after it has been placed on his shelves. Traveling salesmen are representatives of this class of sales people.

The second class of salesmen consists of the hundreds of thousands of people who sell goods in retail stores. Their function is in part to serve the customer by supplying what he asks for, and in part to stimulate the customer's desire for additional articles or for higher priced articles or for larger quantities than the customer had in mind when he entered the store. This latter phase of the work of the retail sales person is by far the most important, for upon its success depends in large measure the success of the merchant for whom the sales person is working.

The third class of salesmen goes directly to the home or

office of a prospect and there endeavors to make a sale. House-to-house sales people of all kinds are examples. With a few exceptions this class of salesmen is engaged in selling specialties and in general an important part of their work is the creation of demand. Recent months have seen this class of selling receive more emphasis and the consequent transfer to direct selling of many articles formerly sold only through retail stores. Raincoats, hosiery, brushes, and electrical household appliances of all kinds are cases in point. Thousands of other salesmen come under this same classification, although they do not sell commodities of quite the same type as those just mentioned. Salesmen of real estate, bonds, insurance, magazines, etc., constitute an important part of every business community and in general render a valuable service to their clients.

Opportunities in Salesmanship.—Personal salesmanship offers an almost unlimited opportunity for business success for the persons who can carry it on successfully. In general such salesmen, with the exception of the less able retail sales people, are paid for the basis of the amount of business done; that is, either on a straight commission basis or by some combination of salary and commission or bonus which allows the salesman to receive a salary in proportion to his sales. This fact makes such work attractive and accounts for the frequent assertion that salesmanship is the most highly paid field of business.

Many business men are more effective in production or executive fields than in sales activities. Present-day business men have, however, abandoned the idea that to be a good salesman a person must be born with the ability to sell. Certain people are undoubtedly possessed of certain native traits of personality which aid them in selling. But that the ability to sell can be cultivated and increased has been proven by the experience of thousands of successful sales people. Recognition of this fact has led to the installation of definite courses of training for

salesmen by manufacturers, by wholesalers, and by retailers. Educational institutions, of both high school and university grade, have in many cases installed definite courses of salesmanship training for their students and have been of assistance in furnishing young people, who, after gaining practical experience, have become successful salesmen.

Sales Management.—Management of the sales force is one of the important phases of the work of any manufacturing organization which sells its products by means of salesmen who call on wholesalers or retailers. The administration of a sales force is usually placed under the direction of an executive who bears the title of sales manager. His duties consist of supervision of the salesmen in the field. He selects salesmen, trains them or supervises their training, outlines definite territories, and assigns the men to these territories. He establishes methods of paying salesmen and checks on the effectiveness of these methods. He or his assistants frequently route the salesmen and notify dealers when the salesman will call. Sales arguments and methods of meeting objections are given to the men by the sales manager in many cases. Sales policies are determined by the sales manager, and it is his duty to see to it that these policies are observed by the men. Thus in general a sales manager is an executive who is responsible for the actual work of the salesmen of the firm, and together with the advertising manager he is held responsible by the general manager for securing sales in the volume desired or previously determined by the board of directors or the general manager.

Advertising as Demand Creation.—Recent estimates place the amount of money spent annually in this country alone for advertising at approximately $1,250,000,000. Of this amount about one-half, or $625,000,000, is spent in newspapers, and about $150,000,000 is paid for magazine advertising. Direct advertising, such as letters, circulars, folders, catalogs, etc., costs annually about $300,000,000. These sums, incompre-

hensible as they are, suggest the importance of advertising from a monetary standpoint. To carry out and supervise the expenditure of these sums, thousands of workers are engaged in the advertising departments of manufacturing and retail establishments and in advertising agencies. Other thousands render the mechanical service necessary to produce the advertising. Still others are employed by concerns which make paper, printing presses, ink, engravings, etc., used in advertising. This money and the activities of these people are the direct result of the necessity of creating or directing demand for commodities, and of the recognition of the fact that personal salesmanship, as important and effective as it is, cannot alone create demand in the modern meaning of the term.

The Place of Advertising in Marketing.—Advertising has had a tremendous development in recent years because of the desire of manufacturers to control consumer demand as well as to create new or increased demands. To control consumer demand brands have been developed and advertised so that the manufacturer of baking powder, for example, can know that he has a certain number of millions of housewifes who when they purchase baking powder, do not demand just baking powder, but his brand of baking powder. This gives the manufacturer an assurance of a certain volume of sales and allows him to plan his manufacturing accordingly. In addition it allows the manufacturers of branded baking powders to sell several times as much baking powder as would be the case if their product were not branded or packaged, but were sold in bulk, as are many of the staples. To the extent that brands are made known by advertising, and to the extent that the quality of the product induces repeat orders by consumers, the manufacturer can control the demand for his product. He is in a position to convince wholesalers and retailers all over the country that they should and must stock his product or they will lose sales; for he can show them that if the consumer can-

not secure the desired brand at a particular store, he will go to some other store for the brand desired. The attainment of this measure of control is the desire of advertisers of nationally advertised and branded products. To this end they use national magazines, local newspapers, billboards, electric signs, direct mail advertising, and other forms.

Retail stores have a slightly different reason for advertising. In some cases they advertise to tell the public that a certain branded article for which demand has been and is being created by the advertising of the manufacturer can be secured at their store. But in general retail stores devote the major portion of their advertising to telling the public that they have certain goods, branded or unbranded, for sale at a definite price. In many cases the principal appeal is price. In other cases the appeal may be style, or quality, or the service of the store. The general object is to induce purchasers to come to a particular store to make the purchases they have decided to make and to induce decisions to purchase other articles. The reason for these additional purchases may be a particularly low price or it may be style or quality.

Any consideration of advertising as a force for the creation of demand is incomplete which does not emphasize that advertising is often the cheapest method of creating consumer demand. An advertisement run in a magazine of general circulation may cost several thousand dollars if a full page is used, but when it is remembered that the advertisement, if properly written, will convey the message of the advertiser to several thousands or, in the case of a few magazines, three or four million readers, it will be seen that the cost of getting the message to each reader is very small. If letters were sent to each of the people, it would cost perhaps five cents an individual. If a personal salesman were sent to each of these people, the cost would be tremendous. Hence advertising is used to create demand because it is often the cheapest and the most effective method. It is, of course, true that advertising must often be

followed up by personal salesmanship, but the idea planted by the advertisement will make it possible for the salesman to be successful at a later date. For example, an advertisement of a correspondence course will secure some enrollments in the course without the assistance of a salesman, but the principal value of the advertisement is to introduce the idea of taking a course to the mind of the prospect. It will later be possible for the salesman to secure an interview and to make the sale of the course because the idea was suggested by the advertisement.

Social Aspects of Advertising.—Advertising has been of great importance in the development of American economic life and standards of living. New wants, some good and some bad, have been created by advertising. Opportunities have been presented by advertising which, when taken advantage of, have been of great value to the prospect. Railroad advertisements of farming opportunities in western states are a case in point. Many have been stimulated to secure an education by advertisements which point out the possibilities of night school or correspondence study. Advertisements of tooth brushes and dentifrices have done more than any other single force to teach the great mass of people the desirability of using these articles. The protection afforded by insurance of different kinds has been stressed by advertisements. Successful advertising has allowed many manufacturers to sell such a large volume of articles that the cost of manufacturing these articles has been reduced and the consumer has been thereby benefited. Successful marketing of branded articles has made it possible for consumers to know what they are buying and to feel sure that the quality is good without being compelled to be judges of the value of thousands of commodities. Advertising has lessened the necessity for possession of technical knowledge of goods purchased, that is to say, it has made it possible for a person to buy goods in a strange town and to know that full value is

being received without knowing anything of the reputation of the store where the purchase is being made. Other illustrations of the value of advertising might be cited, but it is enough to say that it is one of the great dynamic forces of modern life.

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CHAPTER X

AGENCIES IN MARKETING FARM PRODUCTS

Introduction.—A number of specific types of agencies have been developed in the marketing of farm products to carry out the functions mentioned in the preceding chapter. Because of the different nature of farm products special types of agencies have been developed. For example, wheat from the big one-crop ranches of the Dakotas passes through entirely different channels from those which are used for the early vegetables of the east shore of Virginia. These agencies will be discussed in three groups: (1) local markets, (2) wholesale or terminal markets, and (3) retail markets for farm produce.

Local Markets.—A considerable proportion of certain farm products in some districts of the country is sold directly to the consumer by the farmer. This the farmer may do by peddling in the streets of a nearby town. Fruits, vegetables and poultry products are the only articles commonly sold in this way. Not many farmers find this method of sale to be possible for they can use their time more profitably in production than in this comparatively inefficient type of retailing. A good many hucksters are found in the sale of farm produce but they secure their supplies from the local wholesale market or from farmers. Some few farmers have stalls on public markets and sell to consumers, but as in most other methods of selling direct, the farmers find that the time taken is so great that it is cheaper to sell their produce through regular wholesale channels and allow those who specialize in this kind of selling to conduct the retail transactions. Some farm produce is sold directly to local mills or canning factories by the farmers. Sweet corn,

tomatoes, peas, cucumbers, pumpkins, etc., are hauled directly to the canneries by the farmers and in most cases are delivered in fulfillment of a contract made previous to the planting of the crop. Wheat is sometimes delivered to local mills in the same manner, and occasionally corn or other grain is sold directly to other farmers or to local feeders of live stock. Hay and oats were often delivered to city residents directly by farmers in the days of horse-drawn vehicles. Sugar beets are sold to sugar manufacturers on the basis of contracts executed in advance.

Cash Buyers.—A large part of farm produce is sold to local middlemen. Of these the local cash buyers are most important. Such buyers buy farm crops of all kinds and ship them to a central market. They are not primarily speculators, although their business is speculative in nature; they think rather of the normally small margin which is left after they have paid all the shipping and other expenses connected with the sale of the product in addition to the price paid to the farmer. This margin is oftentimes negative, but experience teaches the local buyers about how much margin they must have to be safe and to make a profit from a number of transactions, although they may lose on individual shipments.

Among the more prominent local buyers or shippers are those who deal in live stock of all kinds, those who ship cream, dealers in poultry supplies, and, in fruit regions, cash buyers of fruits. In special early vegetable regions local shippers buy vegetables from many producers. Local grain elevator operators are important examples of this type of buyer, as are owners of cotton and tobacco warehouses.

Local buyers perform a number of the marketing functions discussed above, for they assemble from a number of farmers, they furnish or arrange for transportation, they grade their shipments, they finance them, and they assume risk. In general, they turn the sale function over to a specialist at the wholesale

market, but may be said to participate in this function to some extent in that they must select their selling agent wisely and must know enough about market conditions to be able to judge whether or not they are getting good service.

Cooperative Associations.—In many sections of the country local cash buyers are being largely supplanted by cooperative associations of farmers who perform the same function, assembling, grading, financing, assuming risk, providing transportation, and making sales arrangements. They have grown up because of a feeling on the part of many farmers that they can serve themselves more economically through these shipping associations than by selling through cash buyers. The majority of shipping associations have been successful, for they are simply operated and well fitted for farmers' cooperation. The experience of many such associations has shown, however, that local buyers were rendering an efficient service very economically and one that was not appreciated by the farmers at its true worth.

Traveling Buyers.—Allied in nature to the local cash buyer is the traveling buyer. He represents a buyer at a distance and buys and assembles local farm products for shipment to the wholesale markets. New England wool houses use traveling buyers, as do eastern fruit wholesalers who secure fruit from most of the districts producing quality products. Such buyers are of some importance in the sale of horses and mules in the middle west. Poultry is sometimes sold to buyers who come to farms in wagons or trucks, pay cash for the poultry, and take it away with them. In some sections eggs are sold in this way. The tendency of such buyers is to assume all the marketing functions and to relieve the farmers from all duties other than production. This appeals to certain farmers, but other types of farmers wish to perform some of the marketing functions for themselves and thereby secure a larger return.

Retail Stores.—In many sections of the country the local retail stores are an important agency in marketing certain farm crops, especially dairy and poultry products. Where dairying is not of sufficient importance to justify the operation of creameries or cheese factories, it is quite common for retail stores to accept home-made butter and either pay cash for it or allow credit towards the purchase of groceries or other supplies. In general, such butter is sold directly to the customers of the store without the intervention of other marketing agencies. Eggs are a more common article of barter, for in many communities there is no buyer of eggs other than the retail storekeeper. Eggs are usually received in quantities larger than the local resale demands of the store and hence shipped to a wholesale agency in some central market or sold to a cash buyer.

Other articles sometimes purchased by local stores from farmers include cotton, especially under the crop mortgage system, tobacco, and meat, such as smoked hams, spare ribs, rabbits, etc. Fruit is sometimes assembled by merchants for resale or shipment to a wholesale market. When the retailer handles local farm produce, he is adding to his functions, for such transactions are not a part of the ordinary work of the retailer. He usually takes produce as a matter of accommodation to his farmer customers and to encourage them to buy their groceries and other articles from him. He is in reality taking the place of local buyers in communities where the marketing organization is undeveloped or where the amount of available produce does not justify a specialist.

The principal criticism of the work of the retailer as a buyer of farm produce is his reluctance to grade the produce he buys. This reluctance has made the development of standards of quality production more difficult than would be the case had cash buyers handled the produce, for such buyers are more inclined to observe standards of grading. Their profits depend in part on grading properly, while the country storekeeper

is satisfied to break even or even to take a loss on his purchases of farm products if, because of this service to his customers, he is enabled to sell them merchandise at a good profit.

Wholesale Markets for Farm Products.—The local assemblers of farm produce, local and traveling buyers, cooperative associations, and retailers must ship their purchases to some central or wholesale market. There the products are sold to one of the various types of middlemen which have grown up to receive farm produce or directly to large users of the articles in question.

The Commission House.—Judged by the volume of goods handled and by the monetary importance of these goods, the agencies assisting in the wholesale distribution of the different grains and of live stock are the most important wholesale agencies connected with the marketing of farm products. The usual method of selling live stock, cattle, hogs, and sheep is for the local assembler, a cash buyer or cooperative association, or the farmer himself, to send his shipment to a commission house at the wholesale market where he expects to sell the animals. Shipments are usually made in units of carloads, one carload being the most common shipment, but several cars or even a trainload may be shipped by one buyer or farmer.

The commission house has several duties in handling the car of stock which has been consigned to it for sale by the shipper. Agents of the commission firm must see that the stock is promptly unloaded into a pen or pens in the stock yards. If the stock is to be held several days before sale, feed and water must be provided. If any animals have been injured or killed during the journey these must be disposed of for as much as possible. The main duty, however, is to sell the stock for the shipper. To do this a skilled salesman in the employ of the commission house is assigned to the consignment. He seeks out buyers representing either the different packing houses or other commission houses who may wish to

purchase the animals for a client who desires to buy the cattle or hogs and have them shipped to his farm for further feeding. The salesman knows the condition of the market at all hours and what each shipment should bring, and keeping this point in mind, he sells the stock for the highest possible amount. The buyer then takes charge of the shipment.

The commission house collects from the buyers, deducts its charges for feed and water, if any, and for other expenses; it deducts a certain per cent of the proceeds of the sale and then returns the net proceeds to the shipper. Variations of this process are possible, but in general the services rendered by the commission house in the sale of live stock are of this character. It is a specialist in the performance of its specific duties and thus renders a definite service to the shipper; for it performs sales functions for him which he could not well undertake to perform for himself.

Methods of Marketing Grain.—Grain is sold in at least two ways. Country buyers often sell the grain which they have purchased from farmers to grain wholesalers in the principal grain markets before it is taken from the country elevators for shipment. Other grain is sent to terminal markets and sold through the agency of commission houses. Such sales may take place before the grain actually arrives at the terminal market, for it is sold on the basis of standard grades. Sales also take place after the grain is on track in the terminal market city. In either event the sale is made on the floor of a grain exchange by representatives of the commission house which is handling the transaction for the country shipper.

Grain exchanges are much like stock exchanges and are used for the same purposes. They furnish a place where buyers and sellers of grain may meet and where transactions may be carried on in accordance with established rules. Purchasers of grain are represented by commission houses. These pur-

chasers buy the grain for various purposes. Some are millers who either wish the grain for immediate use or are purchasing grain as a part of their hedging operations. Other purchasers buy the grain and place it in storage as a speculative transaction. Others buy the grain for export, while still other purchasers are feeders of live stock.

The Marketing of Fruit and Produce.—Fruit, vegetables, dairy, and poultry products go through different wholesale channels from those which have been described, for in these lines of produce there are no exchanges comparable to those used for the sale of grain and cotton. There are so-called exchanges in the produce trade, but they are more of the nature of trade associations or clubs, for no sales are made on the floor of these exchanges, nor is there any business in futures in these lines. A partial exception exists in the case of butter, but such sales do not represent a large proportion of the future trade in the product.

The Fruit and Produce Commission House.—Allied in the nature of its services to the commission house in the live stock and grain trade is the commission house dealing in fruit, vegetables, poultry, and dairy products. Such a house acts as the receiver of goods shipped in from local markets by buyers or by producers. The commission house takes physical possession of the goods, puts them into its own warehouse, and by means of salesmen in its employ attempts to sell the goods for the best possible price. The commission dealer knows the trade. He knowns the possible outlets for a consignment of strawberries or cheese and uses the best efforts of his executives and his salesmen to make the most desirable sale; for his future business depends on giving present customers efficient service. When the produce is sold the commission due the house is deducted, as are any expenses not covered by the commission, and the proceeds are remitted to the shipper.

Let it be clearly understood that the commission house or dealer does not own the goods in which he deals. Title remains in the hands of the shipper until a sale is made by the commission house. If the goods are not sold at all or are sold for a very small amount, the commmission dealer loses only his commission or receives only a smaller amount for his services because of the low price received. The commission dealer does not, therefore, assume risk as one of his functions. Perishable produce must often be resorted or repackaged before it can be sold advantageously. The commission man sorts or repackages the produce charging a small sum in addition for this service. To this extent he assumes a part of the grading function. He acts primarily as a salesman for his shippers and as an assembler for the convenience of his buyers; for the commission house in the produce business assembles fruit and other products from a wide territory.

Many commission dealers who have become established financially and can afford to assume a certain amount of risk, buy produce directly from shippers. They thus secure title to the produce, and if they are able to make a good sale they increase their profits. Shippers are usually willing to sell the produce outright for they are relieved of risk and because of this are willing to sacrifice possible profits which they might have made had they retained title to the goods. When a commission dealer owns the goods he handles he is known as a wholesaler rather than a commission man or commission house. Wholesalers are very important in the produce lines and have tended to replace commission dealers in the better organized markets. In order to get business many wholesalers send representatives or buyers directly to the producing districts, where they buy produce directly from the producers, often not waiting for it to be ready for shipment before making contract for its purchase. Especially is this true when cash advances are made by these buyers to orchardists or vegetable

growers who are in need of funds before their crops are ready for shipment.

The Broker.—Brokers in the farm produce trade serve to bring buyer and seller together. In this respect they are like the commission dealer, but they are unlike him in that they do not at any time have possession of the goods they sell. Their operations are conducted as follows. Assume that a grower of Georgia watermelons expects to have one or more cars of melons ready for shipment on a certain day. He does not know which one of the possible wholesale markets will be the best place to sell his melons. Were he to sell through a commission man, he would be forced to select a certain market, consign the melons to a commission house in that market, and trust that the melons would sell promptly at a good price. Because of the uncertainty of this method of sale he decides to sell through brokers. He already knows the names of reliable brokers in a number of possible markets. He simply wires or writes to each of these brokers that he will have a car of melons for shipment on a certain date. The brokers then attempt to sell the car to a wholesale dealer in fruits. If the market is good, the shipper will receive offers by wire from a number of the brokers. He selects the most desirable offer, wires the broker to accept it, and proceeds to ship the melons.

It will be observed that the broker performs only the sales function. He assembles to only a minor extent, he does not grade nor finance, neither does he assume any risk. For his services he is usually paid a brokerage fee which, unlike the amount paid the commission dealer, does not vary with the price he secures. The amount per unit is small—5 cents per box in the case of boxed apples—because the broker normally sells in large quantities. Brokers are widely used in the sale of carload lots of fruits and vegetables of all kinds and to some extent in the poultry and dairy products trade. They

are also used to a considerable extent to dispose of manufactured or canned foods.

The Jobber.—In most of the produce markets another agency, called the jobber, is used. Jobbers buy from wholesalers and commission men as a rule and sell to retailers. As a rule they deal in smaller quantities than do the wholesale receivers and can supply the demands of the small retailers. They usually maintain a warehouse or store to which many retailers come to select their fresh produce or to which retailers telephone orders for delivery by the jobbers. One type of jobber frequently referred to as the "wagon man" secures a load of produce from one of the other agencies and takes it to the doors of the small retailers, who select the goods they need for the day's sales. They perform a necessary service rather economically, for they can purchase and deliver the goods more economically than can the small dealer. They assume risk and have finance functions. Grading and assembly are, in addition to sales and transportation, their most important functions.

Sale by Auction.—In a number of the larger markets auction companies are important sales agencies in the fresh fruit and produce trade. Goods are consigned to the auction company by shippers. The company receives them and prints a description of the goods in the daily auction catalog. Samples are available for the buyers who assemble at the time announced for the auction. Bids are called for one lot of goods and a sale is made at some price. The auction company collects and remits the proceeds to the shipper.

Retail Sale of Farm Products.—The principal retail outlet for farm produce of all kinds is, of course, the retail grocery store. Live stock is sold as meat ready for consumption. The cereal grains are sold as flour, bread, and breakfast foods. Fruits and vegetables are sold in very much the same form in

which they left the farm and in cans. The same is true of poultry and dairy products. Problems of retail sale of these articles are not distinct from other retail problems and hence will not be discussed in this connection.

Peddlers compete with retail stores to some extent in the sale of certain farm products. As shown above peddlers may in some cases produce the goods they sell, but in general they buy from farmers directly or from a wholesaler or jobber at the central market. Hucksters or peddlers are not important in most sections of the country and are scarcely found at all in the smaller towns and villages.

Most of the larger cities have one or more public or farmers' markets. Small numbers of farmers find it profitable to secure a stall in a market house or back space in the outside market and sell their produce directly to consumers. The larger number of farmers have found that time spent in this way is not as profitable as that spent in production, and that the specialists in the sale of produce can sell more economically than can the farmer. Hence the larger part of the business in public markets is done by retail merchants, that is, by people who specialize in the conduct of these stands. They buy their supplies from nearby wholesalers or jobbers or commission houses. From this standpoint they are not a distinctive outlet for farm produce, neither are they relatively important.

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CHAPTER XI

AGENCIES IN MARKETING MANUFACTURED GOODS

Introduction.—Agencies used in the marketing of manufactured products are in some respects similar to those used in marketing farm products and in some respects dissimilar. Certain important middlemen found in the marketing of farm products and other raw materials, as, for example, the local and traveling buyers and car lot receivers, have no parallel in the marketing of manufactured products. A difference in distributive needs has resulted in the development of different agencies.

Control of Supply and Quality.—One of the most important differences is the degree to which it is possible to control the supply of manufactured products as compared with raw materials, particularly the products of the farms. When a farmer sows a field of wheat, there is no method by which he can control the amount of wheat which will be produced. He may apply fertilizer, he may apply water if irrigation water is available, he may treat the seed wheat for the prevention of certain diseases; but the principal factor determining the production of wheat is weather conditions and over these the farmer has no control. Neither does the farmer have any great degree of control over the quality of his product. It is true that by spraying and by using other methods of disease prevention—if he is growing fruit—or by thinning excess fruit, and by certain other methods he can exercise some control over quality. But as compared with the absolute control over quality which is exercised by most manufacturers, the farmer's control over quality is small. Over a period of years farmers

may reduce the acreage planted to a certain crop because of relatively low prices for the crop, but it frequently happens that reduction in acreage is accompanied by favorable growing conditions, and high yield per acre results. The result is that the attempted exercise of control over quantity produced proves ineffective.

Manufacturers are able to control with considerable degree of exactness both the quantity and quality of articles produced. They are therefore able to adjust supply to demand and so enjoy the resulting control over price which such adjustment gives. The problem of the manufacturer is, therefore, to adjust his supply to a demand which already exists or to create additional demand for his product. This possibility emphasizes the demand creation function of the manufacturer and makes it one of the most important phases of the manufacturing industry. Producers of raw material have been able to do but little in creating additional demand for their products.[1]

Size of Productive Unit.—Another factor which in part accounts for the differences in the methods and agencies used is the size of the production unit. Farming is a small-scale enterprise. The farmer is primarily interested in and engaged in production rather than marketing. Hence he shifts the burden of marketing his products to the various specialized middlemen described above. They carry the burden, but the farmer pays them for so doing by accepting a smaller payment for his product than he might receive if he carried on demand creation and other marketing functions.

The small-scale character of farm production also means emphasis on the assembly function, for the products must be gathered together by local buyers, concentrated by terminal market middlemen, and then redistributed by wholesalers, jobbers, and the different types of retailers. Other raw materials, such as minerals, lumber, and fish, are usually produced on a

[1] See Chapter IX.

larger scale than are farm products. For this reason local assemblers are not commonly used. Large-scale sales under contract are characteristic of the mineral industries. Lumber operators have sales organizations of varying degrees of complexity and in general have more of a marketing problem than have most farmers; but it is not as complex as the ones which must be solved by most manufacturers of finished products.

Control of Market Conditions.—Producers of raw materials, as a rule, and especially is this true of farm products, accept the market as they find it. They make little effort to modify the price level or to encourage demand. Hence they sell in markets the price level of which is fixed in many cases by world supply and world demand. But the manufacturer does not accept the market for his articles as he finds it; on the other hand, as a rule he makes conscious efforts to modify the market so as to increase the demand for his product as well as to increase the price received.

Manufacturers in many cases assume a style risk. This varies in accordance with whether the product manufactured is a staple not greatly affected by style changes or whether it is a specialty the demand for which varies in accordance with prevailing styles. The marketing organization engaged in distributing manufactured lines is modified by this element of risk. Producers of raw materials as a rule do not need to consider style risk, for with the exception of the raw materials entering into the manufacture of finished articles the sale of which is affected by changing styles, style does not affect the sale of raw materials. Producers of raw materials, however, must bear the risk of physical deterioration of their products, a risk which need not be considered by perhaps the majority of manufacturers. Certain marketing mechanisms have been developed as the outgrowth of an attempt to minimize the danger of physical deterioration, as, for example, the companies which operate storage houses, finance companies which

make loans on articles in storage, and the entire system of warehouse receipts.

The Manufacturer's Problem of Finance.—Farmers as a rule limit their finance functions to the stages of production and cease their financing of the articles they produce at the time the article is delivered to a buyer. Loans by farmers to cash buyers are as rare as sales to them by farmers on any other than a cash basis. It is much more common for the cash buyers to finance the farmer during the time he is raising his crops. But the producer of manufactured goods cannot cease his financial responsibility when he sells his goods to the first agent in their distribution; for it is customary for manufacturers to sell goods on 30, 60, or even 90 days' time, and to be forced to wait that long for their payment. For example, the manufacturer of a certain type of heating stove makes shipments to dealers through the spring and summer months, but dates all bills as of September 1. He must carry the investment in these stoves during the somewhat long period intervening between shipment and the time he receives payment. The necessity of financing wholesalers and retailers by manufacturers, or retailers by manufacturers, or retailers by wholesalers, and of consumers by retailers has had some effect in determining the selection of channels of distribution.

Contrast in Transportation Function.—Manufacturers as a rule do not render as great a service of transportation as do the producers of farm products. Manufacturers ship a large part of their freight shipments in cars placed on a siding adjacent to their warehouse door. Parcel post shipments are frequently made from post-offices in the manufacturing plant or packages are taken to a nearby station. In either event the transportation cost is small. Express shipments are collected by the express companies at their expense. Hence transportation costs on outgoing materials are low, for freight bills are usually charged to the purchaser. Farmers, however, must

deliver their produce to a shipping station. Farm produce in general is bulky and heavy in proportion to its value. As a result of hauling bulky heavy produce a considerable number of miles the transportation costs are considerable. Transportation is furnished by the farmer and is considered as one of the costs involved in delivering the product to the first middleman who handles it.

Marketing Problems of the Manufacturer.—All manufacturers have problems in connection with the sale of the articles they have produced. In the case of a few manufacturers who sell their entire output to one distributor, as a mail order house, a chain store, or a large department store, their entire marketing problem is confined to the renewal of the sale contract from time to time. The great majority of manufacturers, however, do not sell through a single outlet but must organize a sales department which will so function as to maintain a steady flow of manufactured articles into the hands of hundreds or even thousands of consumers. A number of important problems confront every manufacturer in connection with the creation of such a sales organization.

One of the chief problems of the manufacturer is that of deciding what to produce. Increasing importance is being attached to market analysis research which shows prospective manufacturers what qualities the public wishes to find in a certain article and what qualities will induce them to purchase it. By use of an analysis and by being quick to change when good judgment indicates that a change of style or a change to an entirely different article is advisable, manufacturers are able to keep their production in line with the wants of the public. A few years ago many carriage and buggy manufacturers said openly that the automobile could never be of importance and that competition with it in the future would not be difficult. Other manufacturers saw what was coming and changed their manufacturing plants and organizations in such

a way as to allow the manufacture of automobile bodies and tops. Some even took up the manufacture of automobiles. The first class of buggy manufacturers—those who were not responsive to impending changes—have in general been forced out of business. Manufacturers must decide what they can produce most efficiently and having once made the decision, must remain responsive to the effect of changing conditions of demand.

Price Policy.—One of the first problems to be solved by any manufacturer is the establishment of a price at which to sell his product. There is no central market which fixes a price for his products as is the case in the grain, tobacco, and sugar trades. Each manufacturer must determine his own price policy. In some cases he can be guided by price levels established by competitors already in the field, for unless his product is sufficiently distinctive he cannot vary greatly from an established price for similar articles. But in the case of a very large number of articles competition is not effective either because the article produced has distinctive qualities, or because it either has an actual monopoly or is able to control demand as a result of its being a brand which is well known. In such a case any one of a series of prices might be adopted and goods sold.

The manufacturer's problem is to determine which price will give him the largest net returns. This is usually not the highest price at which units of the article could be sold, but a somewhat lower price which will enable many other purchasers to buy the article and still others to buy it in larger quantities. The price which will be fixed by the manufacturer is rarely a price which is just enough higher than the cost of production to yield a profit, for larger net profits can usually be obtained by selling fewer articles at a somewhat higher price. Only when competition is severe or when a manufacturer is seeking to establish an article in popular favor by putting it out at a low

price will the price be fixed at a point just above the cost of production. These suggestions indicate that manufacturers have a difficult problem in fixing the prices of their products. If the problem is not solved correctly, the fullest measure of success in manufacturing is impossible.

Manufacturers are interested in the price at which their products are sold to the ultimate consumers, for if this price is too high consumption will be decreased and fewer articles sold. If the price fixed by the various retailers is so low as not to give them a satisfactory profit, they will not push the product as it deserves. If cut rate dealers use the product of one manufacturer as a leader or if they cut prices on his line regularly, other retailers who do not follow a cut price policy but operate service stores are likely to feel that the manufacturer is countenancing unfair competition, *i.e.,* that of the cut-price dealers. To prevent such cut prices many manufacturers have been active in an attempt to secure a federal law which will allow manufacturers to fix the resale prices of their products and to enter into agreements with their dealers to maintain these prices. At the present time such agreements are illegal and the manufacturer can do little to prevent price cutting.

Distributive Policy.—Another fundamental marketing problem which faces all manufacturers is involved in the determination of the proper channels of distribution for the article or articles produced. Some articles can be sold directly to the retail trade by the sales organization of the manufacturer, while others are usually sold to dealers through wholesalers. Men's and women's ready-to-wear clothing of the better grades rarely goes through wholesalers, while most grocery and drug products and many hardware lines are distributed through wholesalers. In some cases it is clear that a manufacturer must use wholesalers, while in others a distinct problem arises. For example, one soap manufacturer may be content to sell

his soap through wholesalers and their salesmen, while another manufacturer of the same quality of soap may decide to send salesmen directly to the dealers and to fill their orders from branch warehouses. A similar problem arises when the possibility of selling directly to the consumer by door-to-door agents is suggested. Some articles can be sold in this way successfully, but for others the practicability of such selling has not been demonstrated. Each manufacturer must decide the question for himself.

Some manufacturers sell a part of their product to mail order houses, while others feel that their dealers should be protected by not allowing mail order houses or chain stores to sell their products. When a manufacturer is offered a contract for a large part of his product by such an outlet, he has a very definite problem in deciding on the wisdom of accepting or rejecting the offer. Some manufacturers have found it wise and profitable to open retail stores for the sale of their product, as in the shoe industry for example. Manufacturers in other fields have as one of their problems, in many cases, the consideration of a similar distributive policy. The recent increased importance of chain stores and of house-to-house selling has emphasized the importance of a correct decision on these problems by every manufacturer.

Other Sales Problems.—Manufacturers in many lines find that dealers expect to receive a quantity discount or that they expect free deals or extra service, such as special delivery of shipments, long credit extensions, etc. These and other problems connected with selling the product of a manufacturing plant are not faced by the producers of most of the raw materials of the country.

It has been suggested above that most manufacturing concerns must maintain a sales organization. The size and importance of the sales organization vary with the size of the manufacturing plant and with the distributive policy. If it is

common practice to sell directly to retailers, a much larger staff of salesmen must be maintained than if sales are made only to jobbers and sales to retailers are made through the jobbers' salesmen. If large contracts are accepted from chain stores and mail order houses, the sales function becomes of less importance, and the principal problems are problems of production. The price received when large contracts of this kind are accepted is usually much lower than the price received when sales are made through many outlets, but the cost of selling is much smaller.

Manufacturers' Brands.—Many manufacturers have found that their sales problems have resolved themselves into a series of price competitions. When a product is either a staple or an unidentified specialty, purchasers consider primarily the price of the product. In order to differentiate their products many manufacturers have adopted brands. Such a policy involves the adoption of a trade-mark and in most cases a distinctive package. When an article is sold as the product of a named manufacturer and under an identifying brand, satisfied purchasers can make repeat purchases of the article and know that all units will be of the same quality.

Thus by use of a brand the manufacturer is able to control consumer demand, for by advertising the merits of his brand to consumers he can not only secure repeat purchases but can stimulate consumers to buy his special brand when they are next in the market for the article advertised. Thus by use of a brand the manufacturer creates consumer demand which is to a considerable extent not a general demand for coffee but demand for a special brand of coffee. Coffee manufacturers can, by a combination of a meritorious product and proper advertising, direct demand to their special products. Brands place the emphasis on the merit of the article rather than on the price. Considerable progress has been made by manufacturers of staple articles in developing brands, although for

many years the use of brands was largely confined to specialties; that is, to articles having certain distinctive features. Examples of staples now sold under brands are cranberries, oranges, apples, lumber, sugar, rope, iron, etc.

Brands are of advantage to the consumer as well as to the manufacturer. If a consumer buys a particular brand of coffee or cough medicine, he may find it desirable to buy the same quality when he makes a repurchase of the article. Unless the product is branded or in some other way definitely identified, he cannot be sure that his second purchase will be of the same quality as his first. Brands fix responsibility and furnish the basis for repurchase or the avoidance of repurchase. The manufacturer of a poor product is identified and because of this fact usually does not wish to use brands or any other identification for his products.

Sale of Branded Products.—Use of a brand involves certain sales problems. If a brand is to be introduced to the public as standing for a good product, there are two ways of making the introduction. The slow method is to place the article on the market as a branded product and wait for a demand to develop from satisfied users and from others to whom such users have recommended the product.

The more rapid method, and the method commonly used, is to inform the public of the merits of the branded article by means of local or national advertising. Such advertising is an expense to the manufacturer in the early stages of his advertising campaign and adds to his financial problems. But as the advertising campaign succeeds and purchases of the product are made in increasing amounts, the additional sales made because of the advertising bring in returns which tend to compensate for the cost of the advertising. Many manufacturers prefer to sell their products without a brand. For many articles this policy is wise. One of the principal sales problems of the manufacturer is, therefore, a decision whether or not

to brand his products and to what extent the sale of his branded products would be aided by advertising. He must also decide what kinds of advertising to use and the relative amount to be spent on each of the different kinds.

The Credit Problem.—As we have seen manufacturers and in fact most distributors of both raw materials and manufactured goods are called upon to extend credit to their customers and this financing function is one of the most important of the functions involved in the distribution of goods. Many retail stores make a practice of extending credit facilities to their customers in the form of charge account privileges. The J. L. Hudson Company of Detroit, a department store, has approximately 27,000 active charge accounts.[2] Appreciating the importance attaching to the extension of credit the larger business concerns have established definite departments to handle credit problems and to facilitate the collection of accounts. In the case of smaller enterprises the more important functions in connection with credits and collections fall upon the owners or the general manager of the concern.

Sound credit extensions depend upon accurate information regarding the applicant for credit. Manufacturing and jobbing concerns avail themselves of a number of different sources of credit information among which may be mentioned the credit rating agencies such as Bradstreet and Dun, the statements of the applicant himself, bankers familiar with the reputation and capacity of the applicant, and attorneys who, for a fee, make it a practice to secure information about applicants for credit. Other concerns selling goods to the applicant may be consulted and a firm may make use of its traveling salesmen in securing information upon which to base its credit policy.

In recent years there has been a considerable development of associations for the exchange of credit information. In the retail field these associations range in size from those involving

[2] Hahn and White, Merchants Manual, page 203.

a small group of stores to those including a substantial percentage of the total stores of a community. Both the St. Louis Retail Credit Bureau and the Cleveland Retail Men's Credit Company have memberships of approximately 700 merchants. In many cases these local credit associations or retail credit bureaus, exchange credit information with associations of merchants in other cities. Such associations depend for their success upon the closest cooperation of member stores. New members register immediately with the bureau all their charge accounts giving the name; residence; former residence; occupation; business address; date account opened; amount owed; paying habits, etc. Upon application by a member he is given a report by the bureau involving the experience of all the other member stores with the particular account. Some of these retail credit bureaus serve professional men, automobile companies, banks, hotels, mortgage companies, etc. In some cases, although infrequently, such bureaus operate collection services.

Manufacturers, wholesalers, jobbers and bankers recognizing the value of an organized exchange of credit information like the retailers have developed associations through which to clear credit information. These efforts to provide for the exchange of credit information through a central office have taken a number of different forms. In some cases, trade associations have set up trade credit bureaus which serve a single line of trade or a limited number of allied trades. Perhaps the most noteworthy example of organized cooperative effort to exchange credit information through the medium of a central office is to be found in the organization of some 57 credit interchange bureaus.[3]

Middlemen of the Wholesale Market—Wholesalers.—A wholesaler has been defined as "a dealer who buys in large quantities and sells generally in smaller quantites to other dealers." He buys from manufacturers or importers and sells

[3] See Chapter XXVII.

to retailers. Wholesalers cannot be distinguished from retailers on the basis of the quantity purchased, for in many cases very large retailers, such as mail order houses and chain stores, buy from manufacturers in larger quantities than do many wholesalers.

In general the wholesaler sells only to retailers. Some firms, however, combine wholesaling with retailing. They buy from manufacturers in quantities larger than they themselves need and sell not only to consumers but to smaller retailers. They thus combine the function of the retailer and the wholesaler. The principal reason for this combination of functions is the desire of the retailer to buy at the wholesale price the goods he sells at retail. Wholesalers are used in the distribution of most of the lines of merchandise which are sold at retail. The exceptions are found in the instances where retailers buy a large part of their stock in trade from one manufacturer, as in the case of automobiles, farm machinery, men's and women's ready-to-wear clothing of the better grades, shoes, furniture, etc.

Types of Wholesalers.—Wholesalers are classified as general and specialty wholesalers. General wholesalers handle a full or complete line of the articles commonly sold by their retail customers. General wholesalers are common in the grocery and hardware trades. Specialty wholesalers handle only a few lines, such as flour, sugar, coffee and spices, hosiery, or knit goods. Wholesale grocers often have as many as 10,000 different items in stock. Drug and hardware wholesalers have up to 50,000 items, for in these lines there are many special brands, and in hardware especially the wholesalers must handle a large assortment of sizes.

Functions of Wholesalers.—The services rendered by wholesalers differ somewhat in different lines, but in general they may be classified as follows: All wholesalers render a definite warehousing service. Merchandise is shipped to the

wholesaler's warehouse by the manufacturer and is stored there until it is demanded by the retailers. In this way it is stored comparatively close to the retailer, and his merchandise can be delivered to him in a comparatively short time. Many articles purchased by wholesalers are shipped to them in carload lots and thus a saving is made as compared to L.C.L. shipments. Even though carload shipments in such lines as jewelry and automobile accessories are not common important savings are made by making larger shipments than would be the case if orders were shipped from the factory to the retailer. When manufacturers sell directly to retailers, it is usually necessary for them to own or rent warehouses in different parts of the country or to secure space in a public warehouse, for the warehousing function must be performed by the manufacturer if he does not use a wholesaler.

The Sales Function of the Wholesaler.—Wholesalers furnish the manufacturer with a sales force which is already organized and already acquainted with the retail trade. It is far simpler for a new manufaturer, who often knows more about production than he does about marketing methods, to use the sales force of a wholesaler than it is for him to put his own salesmen into the field to sell to retailers. There are about 60 grocers to each wholesale grocer. It is evident that a comparatively small sales force can sell to the wholesalers, who, in turn, can sell to the retailers.

On the other hand, some manufacturers of full lines, such as the H. J. Heinz Company and The Procter and Gamble Company, sell to such a large proportion of the grocers and sell so many articles to each grocer that they can afford to maintain their own sales forces and their own warehouses. The chief advantage of selling direct is found in the fact that the salesmen have the products of but one manufacturer to sell and can therefore push his products to all grocers. Salesmen representing wholesalers have the products of over one

hundred manufacturers, and for this reason it is very hard for any one manufacturer to induce wholesalers' salesmen to push his articles. This seems to be the principal disadvantage of selling through jobbers. In general manufacturers can distribute through wholesalers or jobbers as cheaply as they can by direct selling to retailers.

Extension of Credit.—Since many retailers operate their business on an inadequate amount of capital wholesalers are called upon to extend credit to their customers. Hence the wholesaler is forced to invest considerable amounts of money in extending credit to retailers for a longer period of time than he is given credit by the manufacturers. This seems to be a legitimate function of the wholesaler and one that he must continue. In many cases wholesalers have financed manufacturers wholly or in part.

Education of Retailers.—Many progressive wholesalers are rendering a real service in the educational aid which they are giving to their customers. They realize that if the independent retailer is not efficient he will be driven out of business by chain stores, or by mail order houses, and that their future welfare depends on the efficiency of their retail customers. Hence they are helping the retailers with advertising and credit problems. They are installing efficient accounting systems for the retailers and in some cases are helping the retailer to train his clerks to be better sales people. This function seems to have developed as part of the service of the wholesaler because of the need for such service. As such it is a legitimate function.

Other Wholesale Middlemen.—Brokers are used in the sale of manufactured products to perform much the same service as do brokers dealing in the raw materials of commerce.[4] Their primary function in both cases is to bring buyer and seller together. For this service they receive a certain fee.

[4] See Chapter X.

Brokers dealing in manufactured goods do not warehouse the goods they handle. As they do not own goods, they have no risk. They do not grade nor inspect the goods as a pure brokerage function, nor do they perform any of the marketing functions except that of selling. They are useful because of the special knowledge they have accumulated and because they know the sources of goods as well as probable outlets or buyers. Brokers are widely used in the sale of canned fruits and vegetables and in the sale of coffee, sugar, and flour. Some manufacturers because of the limited scale of their operations or because they do not care to organize and operate a sales force of their own use brokers for the sale of their goods. Many grocery specialties are introduced to a wide market by use of brokers. Surplus stocks of goods are frequently sold without a brand. Buying brokers are also used to some extent. Their function is to execute orders received from wholesalers or manufacturers for the purchase of certain goods. They know sources of supply and know where to go to get the best terms, the highest quality of goods, or the quickest delivery.

Manufacturers' Agents.—Manufacturers' agents or sales agents as they are sometimes called have a slightly different function from that of brokers. They do not hold title to the goods, but they sometimes warehouse them and distribute to dealers in smaller lots than the original shipment. The distinguishing feature of their operations is that they arrange to sell the entire output of a factory. They may guarantee the sale of a certain quantity at a definite price or they may promise to use their best efforts to sell at the best possible price. Manufacturers who do not wish to be troubled with marketing problems can use sales agents and thus be free to devote their entire time to production. The employment of sales agents reduces the returns which a manufacturer might receive if he operated his own sales organization, but it relieves the manufacturer of sales responsibilities and worries.

Manufacturers' agents are also used to carry on sales in territories a long distance from manufacturing headquarters. For example a sales agent in Seattle may take over the Pacific Coast sales of a hardware specialty manufactured in Ohio or in New England. He knows conditions in his territory, he knows the credit status of buyers, and he has men already on the road selling for non-competing firms in the hardware line. For these reasons the use of sales agents in remote territories has often proved to be the most efficient method of selling open to a manufacturer.

In the textile industry sales agents who take over the entire product of a factory are largely used. This industry also sells through commission houses to a considerable extent. These commission merchants represent textile mills in the sale of their products, but do not guarantee the sale of any specific amount of cloth, nor do they agree to sell at any set price. They simply use their best efforts to make sales and depend on their efficiency for the continuation of their relations with the manufacturers. They are paid for their services by a certain per cent of the price received for the textiles sold. They are unlike the sales agent in that they do not take over the entire output of a mill, and unlike the broker in that they warehouse a part of the goods they sell and in that they furnish advice on styles, patterns, and colors to the manufacturer. Some even go so far as to make designs for him.

Functions of Retailers.—Retailers of both raw and manufactured products perform in general the same functions. Some consideration of these functions will show the importance of the retailer as a step in present day distributive methods.

An important function of the retailer is his service in assembling and storing goods from many manufacturers.[5] He holds these goods in readiness for sale to the consumer at any time and in almost any quantity. He divides the original pack-

[5] See Chapter IX.

ages into smaller divisions and in so doing must furnish new containers for the goods. This breaking of bulk involves a considerable amount of labor and expense.

Retailers perform a considerable service in their conduct of the transportation function. In many kinds of retailing, for example, department stores, grocery stores, or coal yards, the cost of delivery of goods to the customers' homes is considerable, but this service is demanded by a majority of American consumers.

Retailers perform finance functions in the extension of credit to their customers. Customers demand this service and are willing to pay for it. In many cases customers receive their salary or wages weekly or monthly and prefer to pay their store bills at corresponding intervals. Telephone orders also lead to a considerable amount of credit extension.

Retailers assume a considerable amount of risk, for they must purchase goods without any definite assurance that they can be sold to their consumers. Merchants dealing in novelty and style articles naturally must assume more risk than dealers in the staples. There is no definite method by which retail risk can be shifted or eliminated, for no insurance companies operate in this field. Only by careful buying in accordance with the knowledge gained by careful study of the needs of his consumers can the merchant reduce the risk caused by possible failure to resell articles which have been stocked. In some lines, notably fruit and vegetables, risk of spoilage is one of the risks which must be assumed by the retailer. Other types of risk which affect the retailer will be discussed later, as will some of the methods of reducing or eliminating these risks.

The General Store.—The different retail functions are so important that the need for retailers was recognized and met as soon as even a small amount of specialization of production by individuals and territories became common. The first stores of importance were in the nature of general stores, for they

carried almost all the articles which the citizens of the community needed to buy. Such stores are found today in some of the remote sections of the country and to certain extent in many or most of the smaller towns. However, even in the smaller towns there is a certain amount of specialization in retailing, for such articles as drugs, hardware, lumber, coal, farm implements, and automobile accessories have been taken out of the general store and placed in stores devoted to the sale of these products alone. The general stores carry articles needed by the community which have not been taken over by the specialty stores. General stores can and do compete to some extent with the stores of the larger cities and towns. They are conveniently located, they have a personal knowledge of their customers, which is a credit as well as a sales advantage, and they have low operating expenses in general. On the other hand their location is poor for the shopping trade, they are handicapped in buying by their small purchases, and they are often operated by inefficient merchants. Convenience seems to be the principal factor which makes for their continuance.

Specialty Stores.—As shown above unit or independent specialty stores grew up by taking over the sale of one line of merchandise from the general stores. Because of specialization they were able to handle hardware, drugs, or groceries more efficiently than could the general merchant and were thus able to take over the sale of their special line. Today by far the greatest number of stores are specialty stores, and inasmuch as most chain stores come under this classification, they will probably continue to lead in numbers. Many specialty stores have the advantage of neighborhood location. Their principal competition comes from the department stores, and these are located in the heart of the city, an inconvenient location for most shoppers. Specialty stores usually are not large, for the fact of their neighborhood location keeps them small. This means that the proprietor and his clerks can know their cus-

tomers. They can give a personal touch to their contacts with customers and can buy the kind of goods which their class of customers desire.

Specialty stores in the country and county seat towns have no particular location advantage, but they do have the advantage of personal salesmanship as well as the advantage of specialization, elements lacking in the general store. Specialty stores cannot often buy in as large quantities as can their competitor—chain stores, department stores, and mail order houses —nor can they advertise as advantageously as can these stores. Their location and the fact of personal salesmanship have enabled them to meet all kinds of competition so far, and there is little reason to believe that this condition will change.

The Department Store.—Department stores were first operated about 1870. For some years many business men believed that the department store was the type of retailing which would be supreme in the future. That this belief was not well founded is shown by the fact that such stores are of little more importance than they were ten years ago. They have certain merchandising advantages and certain very important disadvantages. Their large buying power has been mentioned. Many customers are attracted by the opportunity of purchasing a large part of their goods under one roof and of using but one charge account. Others are attracted by the price appeal, which is frequently characteristic of department store merchandising.

Because of the large number of lines carried department stores have an advertising advantage. They can use full pages in daily papers and can to a certain extent overshadow the smaller advertisements of the specialty merchants. Because of the scale of operation department stores can utilize the services of specialists in many phases of merchandising. One man has one task and is responsible for this one task. He can become an expert in its performance.

The scale on which most department stores are operated makes the development of personal contacts with their customers very difficult. The personal relationship with customers which characterizes many specialty stores cannot as a rule be developed by department stores. For this reason department stores in many cases make their principal appeal to consumers on the basis of price. Many department stores emphasize the quality of their merchandise, but even then they emphasize the advantage of securing quality goods at a somewhat lower price than is charged by the more exclusive specialty stores. Emphasis on the price appeal makes it necessary for department stores to carry on their business on a very small margin of profit. Hence the fact that department stores usually have larger delivery costs and a somewhat larger credit business than many specialty stores is a real disadvantage to such stores. General administrative expenses are also higher for department stores. Such stores, too, spend a greater percentage of their net sales for advertising than do their specialty store competitors, but this expenditure is necessary to give them the volume of sales which they must have. But in spite of these disadvantages the department store is an important part of present day merchandising.

Newer Types of Retailers.—Many people believe that retailing is not efficiently conducted. As a result of this belief there have developed a number of modifications of the older types of retailing above described. In general an attempt has been made to shorten the cycle of distribution—to get some short cut from the manufacturer to the consumer. Some manufacturers have attempted a solution by opening chains of stores for the sale of their products directly to the consumers. With a few exceptions, such as shoes and candy, such stores have not been particularly successful. They have not been able to reduce the costs of retailing and have offered no particular advantages to the consumers. Some are conducted as laboratories

where merchandising ideas and methods may be tried out by the manufacturer before he asks his dealers to use the methods.

Chain Stores.—Chain stores are an important part of our merchandising organization. A recent estimate is that they are now doing 8 per cent of the retail business in all lines. Chains offer the definite advantages of large scale purchasing and large scale administration. This latter is an advantage in that specialists may be employed for such functions as buying, advertising, window dressing, etc., but is a disadvantage in that supervision is far removed from the individual stores. Efficient managers are hard to secure. Chain stores in general tend to be impersonal in their attitude toward the public, for they are operated on a price appeal and it is assumed that expert salesmanship and attention to the individual needs of the customer are not necessary. Chains have now been operated long enough to demonstrate that the capable independent merchant can compete with them. He competes on a different basis, that of a service rather than a price appeal. There is room in most communities for both types of stores. Chains give evidence of being increasingly important, but not supreme, in the future.

Mail Order Houses.—Mail order houses now do about 5 per cent of the retail business in all lines. The basic idea back of mail order merchandising is that goods can be distributed more economically by mail than by over the counter sales. Cheap locations may be used. Cheap help may be hired, for it does not come in personal contact with the public. Large mail order houses have a buying advantage as compared with the general or specialty stores. Prior to the days of the automobile and hard roads many farmers purchased from mail order houses because it was difficult and expensive for them to go to the larger centers to secure many articles not in sufficient general demand to be stocked by the local general merchants or specialty stores. Buying from a catalog is one of

the easiest ways of buying. This appeals to many customers. Mail order selling has the definite disadvantage, however, of being compelled to operate on faith. The customer does not see the article before it is delivered to him. There is also an inevitable delay after the order is mailed before the goods are received. Mail order purchases are mainly cash purchases. These disadvantages have been overcome in part. Mail order selling enjoys other very important advantages but the increasing efficiency of the local merchants and the automobile and hard roads have combined to limit the general appeal of mail order selling. Although important in many sections of the country, such sales constitute, however, a relatively small part of present-day sales at retail.

House-to-House Selling.—In recent years house-to-house selling has become increasingly important. Many articles hitherto sold only in retail stores are now sold to consumers in their own homes. Some are delivered at once as, for example, drug and grocery lines, while other articles are delivered from the manufacturer by parcel post as, for example, raincoats and aluminum ware. The principal reason for house-to-house selling does not lie in its economy, for it is not an economical method of selling, but rather in the desire of manufacturers to get a volume of sales which they could not otherwise get. By placing hundreds or thousands of salesmen in the field they can secure the undivided sales efforts of these men, and their products are frequently sold in larger quantities than when retailers are depended on. It is not believed that house-to-house selling has the possibility of general application, but for certain lines it seems to have very definite possibilities.

The different modifications of the so-called orthodox method of distribution, that of manufacturer to wholesaler to retailer to consumer, are simply a result of the effort of progressive business men to find more profitable methods of distributing commodities. There seems to be a place in our

economic life for all of the above methods of retailing and, perhaps, for methods not yet developed.

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CHAPTER XII

THE BUSINESS OF FOREIGN MARKETING

The Advantages of Foreign Trade.—Foreign trade, although it resembles domestic trade in certain respects, presents sufficient differences in problems and determinants to warrant separate consideration. Like much domestic trade, foreign trade presents the advantages of regional specialization in production. Climatic differences, differences in the distribution of natural resources, population, available capital, and other factors result in the more economical production of certain goods in certain regions. Japan, with its large labor supply and climatic conditions favorable to the growth of the mulberry tree, has great advantages in the production of raw silk. The United States, with its large area of cotton lands, profits by exchanging a part of its surplus of cotton for the raw silk of Japan. This country, together with the buyers of silk goods everywhere benefits by having raw silk produced where it can be produced to real advantage. Brazil can well afford to exchange its surplus of coffee for the manufactures which it is at a disadvantage in producing, while the other countries with which Brazil trades secure coffee which they might otherwise have to dispense with or, in certain instances, produce at a prohibitive cost.

In addition to stimulating regional specialization, foreign trade has had a great educational value through the contacts of different peoples which have resulted from it. Through it ideas which have stimulated the development of efficient economic and social institutions have been exchanged. Finally, foreign trade has done much to substitute a world point of view for the narrower provincialism which is a by-product of

isolation, and hence has fostered the development of friendly political relationships.

The individual business man benefits from the development of foreign markets in that, in addition to enjoying the general advantages referred to above, he finds in the broader market a steadier market than he would enjoy if the sale of his products were concentrated in a smaller geographical area. An Ohio manufacturer, for example, whose products are sold in many markets is likely to have a steadier volume of trade than if he were dependent upon a purely local demand. A wide market increases the chance that a decline in sales in one field may be offset by an increase of sales in another. In the case of a local market, sales might fluctuate very widely with purely local booms and depressions. In some cases, foreign markets offer advantages in that they may furnish an outlet for goods which cannot be sold to advantage at home; sales abroad may eliminate the necessity of breaking the domestic market by a forced sale. Many other advantages of foreign trade might be mentioned, but enough have been indicated to show the values of such trade.

Restriction on Trade.—The foreign trade of the United States, like the foreign trade of many other countries, has suffered from a variety of restrictions, such as transportation deficiencies and costs, tariffs, and absolute trade prohibitions. Our heavy importation of tropical fruits such as bananas waited upon the development of the refrigerator ship, while heavy importations of many other commodities were dependent upon the development of cheap rail and water transportation.

Protective tariffs levied by the United States Government, by increasing the price of imported articles, have reduced the volume of our imports, while protective and prohibitory foreign tariffs have restricted somewhat the foreign markets for American goods.

Foreign Trade Aids.—Ignorance of foreign markets and marketing conditions has imposed distinct limitations upon foreign trade. A realization of this situation has prompted the governments of our own and foreign countries to assist their business men in the discovery of trade opportunities. Consular officials have, among other responsibilities, the duty of analyzing their fields from the standpoint of trade possibilities and of transmitting this information to their home government for distribution to interested business men. Our own Bureau of Foreign and Domestic Commerce cooperates with the Consular Service in the analysis of foreign markets and maintains a staff of special agents engaged in foreign market studies. The results of their studies are published in bulletin form and distributed to American business men. In the furtherance of its work the Bureau maintains a number of district offices, in addition to the headquarters office in Washington, where business men may obtain information and counsel. The Bureau cooperates also with local chambers of commerce in maintaining offices where the publications of the Bureau are made available and where the business men can look for expert advice. In the furtherance of its work the Bureau has set up a number of divisions, such as the Division of Commercial Laws, the Division of Foreign Tariffs, etc., which place specialized skill and experience at the disposition of our traders.

Supplementing the work of the governments many private organizations have been developed to assist exporters and importers in the solution of their problems. The United States Chamber of Commerce and local Chambers of Commerce assist our importers and exporters. International Banking Houses, foreign trade papers, foreign trade clubs, etc., are also media for the dissemination of useful information on foreign trade.

Governments have sometimes sought to stimulate exports through the payment of bounties or premiums to exporters. In other cases government trade aids have taken such forms as the negotiation of treaties under which their citizens are given

preferential treatment in the matter of tariff rates or the granting of preferential rail rates on commodities destined for export. Germany in particular has attempted to stimulate export sales through a system of preferential rail rates.

In the case of the United States a comparatively recent attempt to stimulate export sales has taken the form of a law know as the Webb-Pomerene Act, under which exporters are permitted to effect combinations which tend to abridge competition in the foreign field. In this action the United States government was but following the lead of many foreign countries which have permitted or even actually encouraged the development of such combinations.

The Foreign Trade of the United States.—The foreign trade of the United States has gone through an interesting evolution. Foodstuffs and raw materials, such as grain, pork and beef, cotton, petroleum, tobacco, lumber and naval stores, copper, etc., dominated our export trade during the nineteenth century, while the slow development of domestic manufacturing in the period before the Civil War led to heavy importations of manufactured goods. This dominance of our export trade by foodstuffs and raw materials was due to a number of considerations, such as the richness of our mineral resources and our soil, which made the extractive industries highly profitable, the smallness of our population, and the lack of capital accumulation, which constituted obstacles to the development of manufacturing. Such manufacturing as developed before the Civil War found an abundant market in meeting the requirements of our rapidly increasing population. Even after the Civil War, the rapid development of the West furnished a sufficient market for the products of our growing manufacturing industries. Our nineteenth century exports of manufactures represented in the main the disposition of an occasional surplus and few manufacturers seriously attempted to build up permanent foreign outlets for their goods. Conspicu-

ous exceptions are to be found in the case of a few American manufacturers who had built up a substantial export trade in specialized machinery—such as typewriters, shoe machinery, harvesting machinery, sewing machines—products of American inventive genius.

The last quarter of the nineteenth century and the early years of the twentieth century marked a gradual increase in the export of manufactured goods, but raw materials and foodstuffs still continued to dominate our export trade. The World War by creating an unprecedented demand for manufactured goods stimulated a great increase in our manufacturing capacity. Europe clamored for American goods, and our manufacturers responded to the demand. As a result manufactures took for the first time a leading position in our export trade. The cessation of hostilities left American manufacturers with greatly expanded production facilities and an interest in foreign markets stimulated by the experience of war-time trade.

From the standpoint of the student of business this change in the character of our export trade is particularly significant in that sales of manufactures abroad introduce distributive problems somewhat different from those involved in the export of raw materials and foodstuffs. In the case of such basic foodstuffs as the grains organized market places or exchanges had long been developed. Many foreign importers of grain maintained seats on our exchanges, where they bought grain for export. Supplementing this work, grain exporters in the United States served as intermediaries in a great grain trade. The existence of such organized market places for the great staples minimized the sales effort required. Grain could always be sold and at a price resulting from a reasonably free play of the forces of demand and supply. Manufacturers desirous of developing foreign markets could look to no such organized market places for the disposition of their wares, and in the sale of manufactured goods our business men were brought into competition with the experienced exporting manufacturers

of western Europe. There resulted a selling problem of a magnitude hitherto unknown in the sale of foodstuffs and raw materials. For the first time in our history American exporters were called upon to fight for foreign markets for their goods. New middlemen had to be developed to care for this new and growing trade, and old middlemen had to adjust themselves to new conditions.

Exports of manufactures present problems in finance different from those involved in the export of raw materials. Banks freely advanced money against shipments of grain because grain was easily saleable, but they sometimes manifested hesitation in making advances against shipments of specialized manufactures, because such goods could not be so quickly and freely turned into cash.

Briefly, our sales of raw materials and foodstuffs had been in a seller's market. European demand for these American products was so insistent that the necessities of European buyers prompted them to build up the machinery of distribution and minimized the sales effort required on the part of the American exporters. In the sale of manufactured goods, however, we are operating in a buyer's market. European competition and the necessity of aggressive selling are forcing our exporters of manufactured goods to build up for themselves such distributive machinery as will enable them effectively to serve the foreign consumer.

Foreign Trade Organization—Early Organization.—The organization of foreign trade in earlier times differed considerably from that of foreign trade as it is carried on today. Early trade was literally barter. Merchants carried their wares to foreign countries and exchanged them for native products which they brought back to the home country. Even in comparatively modern times, as in the days of American maritime leadership before the Civil War, it was a common practice for merchants to ship goods to the Orient, exchange them for tea,

silks, etc., and carry these silks to the United States and Western Europe for sale. Today exporters are rarely importers and many importers carry on no export trade.

Earlier merchants undertook the transportation of their own wares, but today the great majority of foreign traders rely upon the services of independent transportation companies. Organizations like the United States Steel Corporation, The United Fruit Company, and a few others have undertaken the transportation of their products through the purchase and charter of ships, but these simply constitute conspicuous exceptions to the rule that modern importers and exporters rely upon transportation facilities provided by independent transportation companies. Furthermore, the merchants of earlier days were called upon to finance their own exports and imports; today merchants are relieved of the necessity of assuming such financial burdens, or at least are able to minimize them by availing themselves of the services of international banking institutions.

The monopolies in foreign trade as represented by the trading companies of the later Middle Ages and early modern times have largely given way to competitive buying and selling in foreign trade, although certain monopolistic features have been created in modern times through the development of foreign trading combinations; this is true particularly in the case of European exports and imports of commodities such as chemicals, dyestuffs and copper.

Direct Exporting—Modern Foreign Trade Organization.—In the development of an export trade, the exporter may elect to sell his goods either directly to the foreign buyer or may seek to promote his foreign business through the employment of an independent middleman whose functions are, in many respects, similar to the functions of middlemen in domestic trade. Of the two general methods of sale, direct and indirect, the former is likely to prove the more costly and hence

is confined, in the main, to the larger exporting organizations, although a number of smaller exporters have built up substantial mail order businesses with foreign dealers and consumers. Direct exporting may take the form of sending representatives or salesmen to call upon foreign buyers, the establishment of foreign branch houses, and the development of foreign factories or assembling plants. In some cases the American exporters may rely upon the receipt of orders by mail as a result of trade promotional work which is limited to advertising.

Branch Houses.—A most costly method of foreign trade promotion and yet a highly effective method, is the maintenance of branches in the foreign field. Such branch houses may involve the maintenance of a sales force and storage facilities, and in some cases the branch may engage in the assembly of machinery or equipment which is shipped in "knockdown" form. Branch houses are particularly effective in sales promotion since the maintenance of stocks of goods close to the buyer makes possible prompt deliveries. A branch may also be effective in promoting sales through the fact that the personnel can relieve the foreign buyer by assuming the burdens and risks ordinarily accompanying the importation of goods. From the standpoint of the foreign buyer, branches also offer an advantage in that they permit the seller to offer more favorable purchase terms than would be possible in their absence. There is also the advantage that the organization operating branch houses is able to offer installation, demonstration, and repair and replacement services, which are especially valuable to purchasers of mechanical equipment. Branches are sometimes able to effect considerable savings in freight and other expenses through importing merchandise in large quantities and distributing the goods in smaller lots to a large number of foreign buyers. Through their assembly services, besides, branch houses may sometimes reduce the amount of tariff duties

which must be paid, since the total duty levied on the parts may be less than that levied on the assembled machine.

Such branch houses are even more expensive to maintain than are branches operated in domestic trade since salaries paid to Americans to induce them to locate in the foreign field are necessarily high. Branch house organizations are usually limited to large exporting organizations such as the United States Steel Products Company, The Singer Sewing Machine Company, and the National Cash Register Company. Such companies are induced to establish foreign branches not only because of their size but because of the character of their products.

Foreign Factories.—A number of American manufacturers have established factories in foreign fields, particularly in Canada. In some cases the explanation lies in the desire to avoid the payment of excessive tariff duties on the finished product while in other instances the explanation is to be found in such considerations as service to customers, and in economy in production, or transportation. Generally speaking, the development of foreign branch factories has been confined to a small number of American manufacturers of mechanical products such as cash registers, automobiles, sewing machines, or harvesting machinery.

Salesmen.—Traveling salesmen may constitute the sole means of sales promotion in the foreign field, or the work of the salesman may be supported by the activities of a branch house organization and by advertising. The cost of supporting salesmen in the foreign field is usually considerably higher than at home, since the work calls for a superior measure of ability, tact, patience, and character. Moreover, foreign salesmen are frequently subjected to heavy license taxes, and the carrying of samples sometimes involves the payment of tariff duties. Foreign transportation rates are frequently high and

the salesman must often cover a wide territory. Entertainment costs often add materially to the costs of foreign selling.

Traveling salesmen are regarded as very effective in the promotion of foreign trade, particularly in the case of manufactured goods, since the sale of manufactures frequently calls for expert knowledge which middlemen often lack. Traveling salesmen also offer an advantage over independent middlemen in that the former represent a single exporter, while the latter frequently handle the goods of many exporters and consequently are more interested in promoting their sales in general than in pushing the wares of a single foreign exporter.

Exporters of allied lines sometimes unite in employing a single individual who will represent the group in the foreign field. In the main such ventures have not proved successful partly because groups of exporters have been induced to employ incompetent and untrustworthy combination salesmen, and partly because of the difficulties involved in a group of exporters supervising the salesman's activities. Dissatisfaction is likely to arise, since it is a rarity for a salesman to prove equally effective in selling a number of lines of merchandise. The principal advantage of such a plan lies in the economy resulting from the distribution of salary and traveling expenses.

Export Combinations.—Prior to 1918, exporters of the United States were prevented from forming combinations for the promotion of export trade by provisions of the Sherman Act, which declared combinations of competitors to be illegal if the effect of such combinations was to fix prices or to restrict output. In 1918, by the Webb-Pomerene Act, Congress granted permission for exporters to combine for the conduct of foreign business. In effect the Webb-Pomerene Act set aside the provisions of the Sherman Act in so far as the foreign business of American exporters was concerned, but provided that the effect of such combinations as are formed must not be to fix prices or restrict competition in the domestic

field. In order to prevent possible abuses on the part of such export combinations all such associations operate under the supervision of the Federal Trade Commission.

The effect of this legislation was to legalize in America what had long been the practice in foreign countries. Germany, Belgium, and France in particular have long encouraged the development of combinations for the conduct of export and import business, and as a result many such combinations have been organized. Individual American exporters and importers reported themselves at a disadvantage in competing with these foreign combinations. Foreign buying combinations were reported as forcing down the prices paid to American exporters, and foreign selling combinations were declared to be subjecting unorganized American exporters to an especially keen competition in the sale of their goods. The intent of the Webb-Pomerene Act was to overcome these and other competitive handicaps.

Combinations as organized under this law have taken a number of forms. One form consists of a temporary association and pooling of resources for the purpose of conducting investigations to determine whether the members would find it profitable to effect a more permanent type of association. A second type of combination is represented by agreements as to export prices, terms of sale, divisions of sales territories, and similar matters. In some cases the members of this type of combination cooperate in the establishment and maintenance of a credit bureau for the study of foreign credits and the issuing of credit reports on foreign buyers. The members of such a combination retain their independence in the development and maintenance of their own selling organizations. The effect of such a combination is merely to free the members from some of the losses due to unrestricted competition by prescribing certain of the conditions under which each member may carry on his trade. The third type of combination takes the form of a separate company in which the parties to the combination hold

stock and which maintains offices to manage the export business of the member companies. The central office maintains a sales force, credit bureau, research department, and other departments. Orders are distributed to the membership on some basis agreed upon at the time of organization, such as priority, total production capacity, ability to handle particular orders, economy in transportation costs and various other considerations.

American exporters have formed a considerable number of Webb Law Combinations, particularly in such lines as lumber, copper, coal, machine tools, paints, and electrical supplies. In some cases combinations have consisted of producers of competing goods, in others of producers of allied but non-competing goods; in a few cases such combinations have consisted of producers of unrelated lines of merchandise. The history of such combinations is too recent to permit definite judgment as to their success or failure, but it is thought by many students of export trade that their field of opportunity is less than it was originally assumed to be.

Mail Order Sales.—As has been indicated, some exporters rely partly or entirely upon the development of a mail order business. In the development of such business, trade promotional work may take the form of any one of several types of advertising. Catalogs are, however, a principal reliance of many such exporters. In some cases the mails are relied upon not only for trade promotion, but also for making shipment of the goods. The United States government has entered into parcel post agreements with a number of foreign powers. The size limitations placed upon shipments by mail, however, very definitely restrict the use of the mail service for the actual transportation of merchandise.

Indirect Selling.—As in the case of domestic marketing, the great majority of exporters either lack the resources for direct selling or are unwilling to assume its risks and burdens.

Middlemen have developed to relieve exporters of such risks and burdens. In fact, one of the outstanding characteristics of foreign marketing lies in the extent to which exporters depend upon middlemen. Even exporters who maintain direct contacts with foreign buyers in some countries find it profitable to use middlemen in the development of business in other countries, either because limitations on sales volume make direct selling prohibitive in cost or because of such considerations as a lack of knowledge of particular markets, and the strongly entrenched position of middlemen.

The Export Merchant.—The export merchant buys goods from producers and distributors in one country and sells them abroad. In the development of his business the export merchant may operate branch houses in the foreign field, establish warehouses at home and abroad, employ traveling salesmen, and in fact engage in any activity which he regards as essential in the promotion of his business. When an American manufacturer or distributor sells to an export merchant, the problems involved are similar to those involved in the sale of goods to any domestic wholesaler or large retailer, and the seller is relieved of many or all of the technicalities involved in ordinary export business.

The Export Commission House.—The export commission house is the most important of all the middlemen in our export trade. Unlike the export merchant, the commission house does not buy and sell goods for its own account, but simply upon order. Commission houses usually specialize in one commodity or one line of commodities and also limit their operations to one or a few foreign markets. The commission house acts as a representative of the foreign buyer and buys goods only after it has received an order from him. In many cases the foreign buyer indicates the manufacturer from whom the goods are to be purchased; in other cases the commission house is given discretion as to the manufacturer or distributor

who is to supply the goods. In this event it is the obligation of the commission house to see that the interests of its principal, the foreign buyer, are properly served.

From the standpoint of the American exporter, sale through the commission house greatly simplifies his problems since the commission house handles the technical details of transportation, insurance, "documentation," [1] and so forth. The exporter may secure cash for his merchandise or the commission house may guarantee the credit of the foreign buyer.

While the method of sales through the commission house has many advantages, nevertheless it is subject to distinct limitations in that the commission house may not be in a position or may not care to push the goods of any particular manufacturer. The development of any substantial business through commission houses, therefore, usually involves the granting to them of an exclusive agency for a certain foreign field or fields and the assumption by the grantor of a part at least of the trade promotional work in the foreign field. Where commission houses take the agency for an American line, they receive a commission on all sales and in addition may receive a certain sum for foreign publicity.

The Manufacturer's Export Agent.—Some manufacturers, particularly those who are located in the interior and who do not desire to maintain export offices in the principal port cities, employ a manufacturer's export agent to represent them in export sales. The export sales agent who maintains an office in a port city may represent a number of different manufacturers. In many cases, the agent handles allied lines only, such as hardware items, although a considerable number handle entirely unrelated lines.

The principal function—in many cases the sole function—of the manufacturer's export agent is to promote the foreign sales of the manufacturers whose lines he handles on an agency

[1] See pages 261-262.

basis. He does not buy merchandise for his own account, but acts in the capacity of an intermediary in bringing manufacturer and buyer together. In the pursuit of his work the manufacturer's agent calls upon export commission house buyers and export merchants and cultivates the good-will of visiting foreign buyers. In some cases the agent may have foreign representatives to develop his business, while in other cases his sales promotional work consists of the distribution in foreign fields of catalogs and samples. Some agents combine with their sales work services in connection with the details of foreign shipment and the financing of exports. The agent is usually compensated by a commission on all sales, and in addition he may receive a fixed contribution from each of the manufacturers whom he represents.

Foreign Resident Agents.—Some manufacturers have successfully developed foreign trade through the appointment of agents domiciled abroad. These agents because of their specific knowledge of the markets in which they are located and their local prestige and influence are often in a position to develop sales where the manufacturer's traveling salesmen could not succeed. Such agents, like the manufacturer's export agents, are usually compensated by a commission on sales and may receive in addition fixed allowances, including contributions for publicity purposes.

The Freight Forwarder.—Some exporters, particularly those who are located in the interior and who do not maintain port offices, employ a freight forwarder to care for the details of export shipments. While the use of the freight forwarder does not relieve the exporter of the responsibility for developing sales, it does free him from many of the details involved in making shipment and frequently reduces the expenses incident to the forwarding of freight.

Forwarders frequently maintain offices or representatives at strategic points in the interior in addition to those at the

port. Such an organization frequently permits them to reduce the costs of transportation from the interior to the port of shipment. A forwarder with offices in Seattle and Chicago is in a position to offer valuable services to the exporter with orders for goods to be shipped to the Orient. The forwarder may combine the shipments of a number of different exporters to make up a solid carload of merchandise to be shipped from Chicago to Seattle. The result is a saving in both time and money since carload shipments usually take less time in transit than do less than carload shipments, and the freight rate on carload shipments is lower than that upon less than carload lots. On the arrival of the goods in Seattle the forwarder arranges for the transfer of the freight to a steamship company with which he has already made a contract for shipment. Such documents as are necessary to the handling of the shipment will be prepared by the forwarder, and in some cases the forwarder assists the exporter in financing the shipment.

Forwarders frequently maintain foreign representatives to whom they can consign shipments, and it is the responsibility of such representatives to expedite the transfer of freight to the foreign buyer. When the individual shipments are small, the forwarder may economize in ocean freights by combining the shipments of a number of exporters and making shipment under a single bill of lading, the shipment being broken up and delivered to the several consignees by the foreign representative of the American forwarder. The freight forwarder thus relieves the exporter of much detail in connection with export shipments, a service which calls for expert knowledge, and enables the exporter to avoid many of the risks and annoyances incident to export trade.

Documentation.—The conduct of foreign business is complicated by the fact that customs and government regulations call for the preparation of a considerable number of documents, such as commercial invoices, consular invoices, shipping per-

mits, dock receipts, bills of lading, non-dumping certificates, and certificates of origin. Since errors and omissions in many of these documents subject the foreign buyer to heavy penalties, they must be prepared with great care, and with considerable technical knowledge. As we have seen, exporters are frequently relieved of the necessity of the preparation of such documents through the employment of technically trained middlemen.

Finance and Credit.—The financing of foreign trade is rendered difficult by the fact that each country has its own monetary system and that longer time credits are frequently demanded than in the case of domestic trade. The demand for longer credits in foreign trade is in part a result of the length of time goods are in transit and in part a result of the fact that in many countries agriculture is the dominant industry and agricultural regions usually demand long credits because of long intervals between the receipt of income.

International banking houses assist the exporter in financing his shipments. They collect accounts for him and frequently minimize the amount of capital required to do an export business by advancing funds to the exporter immediately upon the dispatch of the shipment, reimbursing themselves by collecting later on from the foreign buyer. When manufacturers sell to export merchants or to export commission houses, the financing of shipments presents problems similar to those involved in domestic trade, inasmuch as the manufacturer looks for payment to the middleman and not to the ultimate foreign buyer.

Marine Insurance.—Ocean transportation companies, unlike railroad companies, do not assume responsibility for the safe transit of merchandise. The steamship company is, of course, responsible for all losses and damage due to its own negligence, but it does not assume responsibility for damages resulting from the perils of the sea. The shipper or the

foreign buyer is, therefore, under the necessity of negotiating insurance on the shipment. Marine insurance brokers and the various middlemen serve the foreign trader in the negotiation of such insurance.

Conclusion.—As we have seen, new problems in the conduct of foreign trade have resulted from the increasing importance of manufactures in our export trade. The necessary sales effort has been increased and advertising has been brought to the assistance of the exporter. New middlemen have developed and old middlemen have taken on new functions. The developments of the past point to an increase in the volume and importance of our export and import trade, developments which must inevitably affect the nature of the marketing, financial, and other organizations involved in such trade.

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CHAPTER XIII

FORMS OF BUSINESS ORGANIZATION

Early Forms of Organization.—As economic life became complex, new forms of organization had to be developed. Simple forms of association which had served when each farm or each village was largely economically independent were not well adapted for carrying on trade with distant districts or with foreign nations. The factory system called for the investment of larger amounts of capital than could be obtained under the simple forms of organization previously in use. Risks of foreign trade led to the development of the partnership. To make possible the economy of division of labor, enterprises of larger scale were necessary. Business demanded the framework supplied by the developed forms of the partnership and the corporation. As business projects became larger it was necessary to divide authority, for the general manager could not supervise all the varied activities of his business. Hence the division of a business enterprise into various departments, each under a responsible executive, has come about, and for this type of organization the corporation has definite advantages.

Prior to the Middle Ages the family was in general the basis of organization. Each head of a family conducted farming, hunting, or trading enterprises without association with others. Exceptions to this rule were joint hunting expeditions in which sometimes an entire tribe joined and in common pasturing of herds under the supervision of duly appointed persons. However, these early efforts can hardly be called partnerships, for there was little if any provision of profits on any set basis, nor was there financial responsibility for the acts of partners. But with the expanding trade of the Middle Ages

came a realization of the inadequacy of the sole proprietorship for certain types of trade.

Medieval Organization.—When a merchant sent articles to a distant place for sale it was necessary for him to accompany them to protect the caravan from robbers and to look after the sale of the goods; for transportation was unsafe, no carrying companies had been developed, and there were no agents, brokers, or middlemen to whom the sale of the goods could be intrusted. Hence it was quite common for a partnership to be formed wherein one member was responsible for the transportation and sale of the goods, while the other member looked after the production or purchase of goods for the next trip. Partnerships were used in Italy in the early Middle Ages for carrying on trade with foreign nations. Risk was involved in these expeditions, for ships were frequently wrecked. In order to distribute risk several merchants joined together and sent out several ships, a plan much safer than that in which each one sent out one ship on his own account. If a ship was wrecked or loss occurred for any reason, the profits from the remaining ships would in part compensate for the loss. Early partnerships were often formed on a family basis; that is, several brothers or other relatives would join in this form of organization.

During the Middle Ages a number of great trading companies like the Dutch East Indies Company, the East India Company, and the London and Plymouth companies, were formed on rather rough corporation lines. They were not pure corporations, but were so organized as to limit risk and to center authority in the hands of a few members who were selected to manage the company. They were organized directly under government authority and were given special rights because of their aid in carrying on military operations. Thus their object justified their being granted monopolistic powers in the form of the exclusive right to carry on trade in the regions

assigned to each company. Their size was both forced and justified by the difficulties of colonizing in their territories and by the belief that settlement could be carried on only if the colonists had the support of a large and powerful company at home.

The Sole Proprietorship

Definition.—The simplest as well as the earliest form of organization is known as the sole proprietorship. This term is applied to that type of business organization in which a single person owns and controls the business. He takes all the profits and bears all the losses. Because of its simplicity and its adaptability to small business enterprises of every sort, this form of organization is numerically far more important than either the partnership or the corporation. But judged by the amount of capital employed, the volume of business done or the number of employees, the sole proprietorship is relatively less important than its numerical strength would indicate.

In general it may be said that the proprietorship is found to some extent in every branch of industry. Many of the great corporations of today were owned and operated by a sole proprietor in their earlier stages. When the capital required was small and the business could be conducted under the supervision of one man, this form was adequate. Practically all farms are still conducted as proprietorships, the only exceptions being the relatively few cases when father and son, two brothers, or landlord and tenant form a partnership. A very few farms are operated by corporations which have been formed to manage either an enterprise involving a large capital investment such as a large scale dairy farm, or a series of farms.

When farmers group together in a cooperative marketing, buying, or processing organization, they form a special type of corporation, for they are then engaged in a project for which neither the proprietorship or the ordinary corporation is well suited. Many states have passed special acts governing the in-

corporation of such organizations and in many cases have given to enterprises owned by farmers special privileges which are not enjoyed by businesses organized under the regular corporation laws of the same states.

The Proprietorship in Various Lines of Business.—In lumbering the proprietorship is little used. In many regions the farm woodlot, as a part of the general farm operations, is owned by a farmer who operates his business as a proprietorship. But when logs are cut and sold to a local sawmill, they may go to a business which is operated under any one of the three forms of organization. Often these mills are very small in scale and can be easily operated as a proprietorship or as a partnership. In regions of second growth timber both lumbering and milling are often conducted on so small a scale as to make possible the use of any one of the three forms of organization. But in regions of virgin growth timber logging and milling operations are usually conducted on so large a scale as to make the use of the corporate form of organization desirable.

Some small-scale mines, such as the wagon coal mines, are operated by single proprietors. Mine prospectors operate on their own responsibility as single proprietors, except when they are "staked" or financed by another person, who thus acquires a partnership interest in any mines discovered. But most mines require too great a capital investment for a single proprietor. Many simple fishing businesses are operated as proprietorships, for such projects as inshore fishing from small boats, oyster gathering, and clam digging do not call for a great capital investment or involve any considerable risk. But when steam vessels are sent to distant fishing grounds, either the partnership or the corporate form of organization is used. Processing of fish, such as freezing, drying, packing and canning, is usually on a scale too large to be conducted by a single proprietor. The distribution of fish to many markets is usually carried out by a corporation. Practically no railroads, steamship companies, or

other public utilities are carried on as proprietorships. However, many bus and truck lines are so organized, for such lines frequently call for the ownership of but a single truck or bus. When more than one or two vehicles are owned one of the other forms of organization is generally used. Banks cannot be organized as single proprietorships, except in a few states which still allow private banks. Insurance companies must be organized as corporations.

In merchandising, proprietorships are very common. The great majority of small specialty stores are owned and operated by individuals for they call for only a small capital investment. Many wholesalers of groceries, drugs, and hardware operate on so small a scale that the business is owned by one man and is organized as a proprietorship. On the other hand, very few chain store systems are on a scale small enough to allow this form of organization. The same is true of most department stores and of many of the larger specialty stores in the shopping districts. Mail order houses are as a rule corporations. Thousands of small factories are proprietorships, but as a rule the demand for capital and for permanency of life makes it advisable for manufacturing businesses to be organized as corporations very soon after they are launched, if not at the beginning.

Advantages of the Proprietorship.—The examples above quoted show that the single proprietorship is primarily adapted for small businesses of all kinds. Certain advantages account for this. If an individual wishes to open a grocery store, he is not required to observe any legal formalities other than securing a license where the law so demands. He needs to draw up no articles of agreement, nor has he any need for a charter. He is the proprietor. The money invested is either his own or is borrowed by him alone. No other individuals have any responsibility in connection with the operation of the business. Hence ease of formation is an important advantage

of the proprietorship. Dissolution is just as simple, for the owner merely closes his business, pays his business debts, and uses whatever funds then remain for any purpose which pleases him. The owner may conduct his business as he sees fit, for he has no obligation to stockholders or to partners. Decisions may be made quickly for only one mind is involved. Partners need not be consulted nor need a meeting of the board of directors be called. Many business men are individualists in that they wish to operate their business entirely in accordance with their own ideas even though they may prove to be unsound. For such men the proprietorship is well adapted.

In some lines manufacturing processes must be kept secret, and the secret formulas are an important part of the assets of the business. The proprietorship is well adapted for these businesses for only one man need know the secrets. Partnerships are not satisfactory for a business of this kind, since they are often quickly and easily dissolved, and with the going of a partner may go the secrets of the business. The responsibility of conducting a business without the help of partners or stockholders is compensated for by the fact that whatever profits are made belong to the single proprietor; they need not be divided with others. The necessity of bearing all losses serves to stimulate the proprietor to greater efforts to avoid losses. When there is no one else to lean on, the owner must succeed or fail solely by his own efforts. Some men are attracted by such an opportunity, while others shrink from such responsibility and either become employees of more aggressive business men or form partnerships where risk and responsibility may be shared with others. Indeed, many simply buy stock in corporations, the ownership of which may involve little or no responsibility for the active assumption of the duties of management.

Disadvantages of the Proprietorship.—The existence of other forms of business organization proves that the sole pro-

prietorship is not fitted for all business needs. The proprietorship is limited in duration to the life of the proprietor. Although the business may pass on by inheritance and be continued, the new proprietors are often not fitted to continue the business successfully, for they have not been trained for the task. This fact accounts for the frequency with which proprietorships are changed into corporations when the owner reaches the age of retirement, for as will be shown below, death of any one stockholder as such has no effect on the operation of a corporation. Sometimes a sole proprietorship becomes a partnership when it passes by inheritance to two or more heirs of the former owner.

Naturally proprietorships are limited in their capital to what one owner can contribute or borrow. Hence they cannot be used for enterprises of any sort which require the investment of a larger amount than one individual cares to put into the business. In some cases one individual could conduct a very large business; but because of his unwillingness to invest a major part of his fortune in a single enterprise, he invests in a number of lines of business or in a number of firms in a single line, in order to distribute both the risk and the possibility of gain. The credit of a proprietorship is limited to the credit of the owner, for no others can be called on to meet losses incurred. Hence sums which can be borrowed are smaller than would be the case if the same business were organized as a partnership; for in that case all partners would be responsible for the debts of the firm. One further disadvantage of the proprietorship is found in the fact that it can draw on but one financially interested individual for guidance. A partnership, on the other hand, has the combined and balanced guidance of several men. Weakness in the judgment of one may be counteracted by the strength of the other. The sole proprietorship has no such balanced management. It must succeed or fail in accordance with the ability of the one owner. In some cases this is a serious disadvantage.

It should be pointed out, however, that the above discussed emphasis on the small size of the proprietorship may be misleading, for perhaps in the majority of businesses enough capital can easily be contributed by one man to operate the business. For example, $1,000 cash capital is sufficient for many lines of retailing. Many farmers operate farms as tenants on less than this amount. Most artisans, if they be considered as business men, have less than this amount in tools and equipment. Hence for this great mass of small business enterprises, the proprietorship is not subject to the disadvantage of size. Neither is continuity of life nor the balanced judgment of several partners important in many of these small concerns. Hence the reason for the very large number of proprietorships is easily seen, for when the advantages and the disadvantages are balanced, this form of organization is easily the best one for many thousands of small businesses.

Relative Use of Forms of Ownership.—As illustrative of the relative use by typical industries of the three forms of organization most commonly used, the proprietorship, the partnership, and the corporation, the following table compiled from the records of the census of 1920 is submitted:

CHARACTER OF OWNERSHIP

Kinds of Manufacturing	Proprietorship	Corporation	Other
Chemical	48	514	36
Fertilizer	55	482	63
Petroleum refining	8	297	15
Soap	87	222	39
Brick and tile	598	1,415	401
Glass	12	342	17
Automobile	1,115	1,248	467*
Farm Implements	139	308	74
Printing and poster-making	17,676	8,947	5,853
Lumber industry	17,527	6,730	8,311
Cotton manufacturing	102	1,307	87
Butter, cheese and canned milk	2,544	1,948	3,177

* These figures include bodies, parts, accessories, as well as the companies making complete automobiles. Of the latter, 292 of 315 companies were organized as corporations.

The Partnership

Partnership Defined.—Following the proprietorship in age and in simplicity of form is the partnership. One well known writer has defined the partnership as "an association of two or more persons who are jointly or severally responsible for the management of the enterprise on which they are embarked." That is, it is a group of persons who together carry out the functions performed by one person under the proprietorship form of organization. Together they furnish the invested capital, they borrow other funds, they manage the business, and they divide all profits and all losses in an agreed manner. Two or more heads and two or more individualities combine to accomplish a joint purpose—the conduct of a business. Unlike the launching of the proprietorship, certain formalities must be observed before the business may proceed.

The Partnership Agreement.—Usually articles of copartnership are drawn up in order that the duties, responsibilities, and limits of each partner may be definitely stated. In a few cases an oral agreement is used, but such an agreement is not usually satisfactory because of later misunderstandings and of the uncertainty as to just what the agreement provides for and the points it covers. Good business practice provides for a written agreement usually drawn up by an attorney who is familiar with partnership law. The agreement commonly covers the following points: The names and the capital contributions of all partners are stated. The firm name is given. Rights of control of each partner are definitely stated. That is, it may be agreed that one partner shall do all buying, that another shall have charge of the factory, that a third shall be in charge of the sale of the product. No one of the partners is to interfere in the management of that part of the business assigned to the other partners. The agreement should cover the ratio to be used in the division of profit and of loss, for it may not be the

same as the ratio of capital investment. Sometimes certain business policies or methods to be used in conduct of the business are made a part of the agreement and thus become additionally forceful. The manner of dissolution is usually covered in the agreement, for in the case of a partnership this is an important item. Some agreements provide that an annual audit shall be made by a public accountant. Other items of similar importance may be and are included in partnership agreements. After it has been drawn up the agreement is signed by each partner and it then becomes a binding contract between the partners so far as its items are concerned.

Use of the Partnership.—The most common use of the partnership is in retail merchandising. In some cases men desire to enter this field of business but do not have even the small amount of capital necessary. They therefore combine interests with one or two other men similarly situated and form a partnership and open a store. It is also quite common for retail partnerships to be formed as a combination of one man who has the necessary capital and another who is experienced in the retail line to be entered. Department stores, chain stores, and mail order houses are rarely operated as partnerships because of the difficulties which would arise were enough men to secure the necessary capital associated together as partners. Partnerships are rare in farming and little used in either lumbering or mining. There is some use of this form of organization in Great Lake and inshore fishing. As a rule the partnership is little used in manufacturing, for it is not adapted for furnishing either the necessary capital for most enterprises or the continuity of life which a factory organization must have. A prominent exception is, however, found in the needle trades or the manufacture of ready-to-wear clothing. Here little capital is necessary, for, as shown above,[1] machines are leased, the buildings are rented, and the raw material is furnished to the

[1] See Chapter VI.

new business man by a manufacturer with more capital. Professional men use the partnership form of organization to some extent; for it allows doctors or lawyers to bring together a group of specialists who use a common office and practice under one firm name, but under an arrangement which allows each partner to take the class of business in which he is a specialist.

Advantages of the Partnership.—Certain definite advantages over the proprietorship, and certain over the corporation account for the use of the partnership. Two or more partners can furnish more capital than can a single individual and can retain greater control over its use than if the corporate form of organization were used. This one fact accounts for many thousands of partnerships. The unlimited liability of the partners for the debts of the concern, a point discussed below, enables a firm so organized to secure credit more easily than under either of the other forms of organization. Specialization of ability and training is possible under the partnership form of organization, for each partner may by previous experience or by specialization after the business has been formed, be an expert on the particular phase of the business entrusted to his management. This gives the firm some advantage when competing with a business organized as a sole proprietorship, for supervision of the business is done by the partners; that is, by owners rather than by employees. The advantage is obvious. Because of unlimited liability for the debts of the concern each partner has an incentive to attend strictly to business and to see to it that his share of the management is well carried out. Although it is necessary to draw up and sign articles of partnership, this process is far simpler than that involved in chartering a corporation; hence in ease of formation, the partnership has a definite advantage over the corporation. The partnership also has a more flexible control, and more rapid decisions can be made than under the corporation form where all business policies not entrusted to the judgment of the em-

ployees of the concern must be decided at the infrequent meetings of the board of directors or the still more infrequent stockholders' meetings. Under the partnership form questions which arise can be settled just as quickly as the partners can get together and reach a decision.

Disadvantages of the Partnership.—The partnership form is used as a rule for enterprises which require less capital investment than do those organized as corporations, for partners do not usually wish to invest all their funds in any one business. If the number of partners is increased to increase the capital, the partnership becomes unwieldy. Decisions cannot be reached because of differences of opinion, and unlike the corporation shareholder, each partner has the right to bind the business by his actions. This latter fact—the right of each partner to bind the business—is both an advantage and a disadvantage of the partnership form. Sometimes it is desirable to get quick action. This can be done if any partner can act for the firm, as is the case in the straight partnership form of organization. But because of poor judgment or because the partner is making a decision in a field of the business with which he is not familiar, the action may be unwise. In this case the firm is bound by the act of the single partner and must suffer whatever penalties result. On the whole this phase of the partnership form of organization is usually considered to be a disadvantage.

The death or withdrawal of one partner terminates the business. A new partnership must be formed. The remaining partners may carry on the business or a new partner may be admitted to the firm. In either case an accounting must be made to the heirs of the deceased partner, or to the one who has withdrawn. This is simple, but the danger is that funds to replace those drawn out may not be easily obtained. If these are not secured, the whole enterprise may be wrecked; for in many kinds of business, success comes only after a considerable

amount of money has been lost in developing the business. If, for example, a national advertising campaign is conducted and large amounts of money are spent, it may take five or more years for the resulting sales to pay for the advertising expense. Yet the business, by continuing the advertising, may make such a volume of sales in the next 5 or 10 years that the total amount spent for advertising would be a very small percentage of the sales. However, if one partner dies and his share of the capital is withdrawn and cannot be replaced, the business may have to be terminated just when the returns are about to come in. This is one of the most serious disadvantages of the partnership form of organization.

Another serious disadvantage is that all partners are liable to the full extent of their property for the debts of the firm. For example, suppose that two partners, one having $5,000 and the other $25,000, invest $5,000 each in a business. If the business should fail, both partners may lose all their investment. In addition the more wealthy partner may be compelled to pay out of all proportion to his investment in the enterprise. This fact limits the use of the partnership in enterprises which are of a risky nature. A further disadvantage is in the fact that several people have equal rights in the management of the firm. Friction may easily develop which may result in the termination of the partnership and a loss of all or a part of the invested capital. For the above reasons there is doubt that the partnership will increase in importance; rather is there reason to believe that the corporation will replace the partnership to an increasing extent as time goes on.

Kinds of Partnerships and Partners.—The above discussion has referred to the general partnership composed of from two to five or six partners, in which each partner shares equally in authority and in which profits and losses are divided either on the basis of capital invested or of time contributed, or on some ratio determined by a combination of the two factors,

capital invested and time spent in the activities of the business. However, there are a number of special kinds of partners and of partnerships. For example one or more of the partners may be "silent." In this case the silent partners have an agreement with the other partners that they shall have no voice in the management of the concern. They share in profits and in losses and are subject to full liability for the debts of the business. "Dormant" partners have an investment in the business but do not share in its management. Their connection is kept secret from the outside world. So long as the connection is secret the dormant partner is not liable for the concern's debt, but should his connection be discovered he at once becomes a general partner with full rights and full liabilities. "Secret" partners have a voice in the management of the business, but their connection is kept secret.

Limited partnerships involve the division of the partners into two classes. One class—general partners—are liable for all debts of the firm, while the other class—limited partners—are liable only for an amount agreed on when they became partners. Usually the limit of loss is the amount of contribution made to the firm. Such a partnership can be formed only in states which authorize it by law and then only under the condition set up by the law. They are not commonly used and are not of great importance. In fact, the great mass of partnerships are those of general nature in which all partners are on an equal basis and share profits and losses alike or in proportion to the investment made by each.

The Corporation

Definition.—The third form of organization is the corporation. Using a famous definition it may be said that a corporation is "a person, artificial, invisible, intangible, and existing only in the eyes of the law." Further it may be said that it is a group of stockholders who, acting under a charter granted

by a state, do business as one person or as one firm. Inasmuch as the state grants certain privileges to the corporation, and as it can exist and have these privileges only by state action, the state usually retains some measure of control over the acts of the corporations which it charters. In this respect the corporation differs from the proprietorship and from the partnership, for these are but organizations of persons created by the will of the persons involved, but without the sanction of the state specifically expressed by a charter or any similar paper. State control over the proprietorship and the partnership is exercised only through the operation of such laws as govern business in general, and through such special laws and court decisions as govern the partnership relation. But in the case of the corporation the state retains the right to levy special taxes against it, to cause it to conform to the objects stated in its charter, and to call for such reports of its actions and conditions as may seem wise from time to time.

Why Corporations Are Formed.—The desire to form corporations may arise for a number of reasons. The owners of a business which has been operated as a proprietorship may desire to secure the benefits of the corporate form and hence apply for incorporation. New enterprises may be formed which, because of their size, or because of the desirability of interesting a large number of investors, must take the corporate form. In the formation of new corporations, a business man known as a promoter often takes an active part. This term—promoter—is commonly applied to one who discovers the opportunity for a new business in a community, studies the conditions surrounding the business and its operation, the market for the commodities produced, the supply of raw material, the amount of capital which must be invested, and other facts bearing on the success of the proposed enterprise, and then interests those having money to invest. For example, some one believes that a certain city needs a new hotel. He studies the

existing demand for hotel facilities, and considers the probable increase or decrease of the demand in the future. He combines with these facts those bearing on the cost of building and operating the hotel. As a result of his efforts local investors are interested, a charter is secured, and the hotel is built. Manufacturing and mercantile enterprises are promoted in the same manner. When the business is under way the promoter is sometimes retained as manager, but frequently he severs his connection with the company and starts the promotion of another enterprise in the same or some other community. For his services of promotion he is paid either a definite amount of cash or stock in the company. His real service is in the discovery of the business opportunity, in his special knowledge of the steps necessary in promotion, and in the service he renders in interesting investors in the proposed project.

The Corporate Charter.—The first English corporations received their charters directly from the king. Later Parliament took over this authority. The American colonies and later the states followed the British custom and required each new corporation to receive its charter by special action of the legislature. But it soon developed that this method offered too great opportunity for favoritism. Political influence was in many cases necessary before a charter could be granted. Corporations already in the field were able to restrict competition by political connections which enabled them to make it difficult or impossible for new companies to be chartered. In 1825 New York provided for incorporation under a general law which provided that all applicants meeting certain qualifications should be chartered by the secretary of state. Other states soon followed. Today, in most states one law covers the granting of charters to all corporations of a general business nature. In many states, however, a special law provides for charters to non-stock corporations, such as churches, schools, lodges, clubs, etc. Congress has the right, however, to require federal charters

of all corporations engaged in interstate commerce, but except with respect to national banks and other banking institutions, it has not chosen to exercise this right and interstate corporations receive their charters from the state of their choice.

Steps in Securing a Charter.—The law provides certain steps which must be followed in securing a charter. The first of these is a preliminary meeting of the persons who expect to be stockholders in the new corporation. At least three persons must be present at this meeting as a rule. A certificate of incorporation is drawn up and submitted to the secretary of state, or other designated state officer, for his approval. This application contains information on such details as the following: The name of the proposed company; its purpose; its powers; the amount and kinds of capital stock which it is proposed to issue; the number of shares of each kind of stock; the location of the principal office of the company; the proposed duration of the company; the number of directors; the names and addresses of the first board of directors; the names and addresses of the incorporators and the number of shares which each owns; and such other provisions as may be relevant. This application or certificate of incorporation is acknowledged before a notary public and is sent to the secretary of state, who examines it to see that the provisions of the law have been complied with.

A common cause of objection by state officials is that the corporation seeks to exercise powers which it may not have unless it organizes as a bank, railroad, utility, insurance company, or as a school or church. If the secretary of state objects to certain clauses, he returns the application to the persons making the application, and the objectionable clauses are removed or application is filed for grant of special charter under one of the special incorporation acts. The application must be accompanied by the charter fee required by the state. When the application is granted a duplicate copy is filed with

the county clerk or some other officer in the county where the principal place of business is located. A few states require that the application for charter must be published a certain number of times in newspapers of general circulation before it is granted.

Corporations are often chartered by a state other than the one in which it is proposed to do business or where the principal office is located. For example, a company may be organized to operate a department store in Ohio, but the charter may be granted by New Jersey or Delaware, or by any other state. Any state has authority to charter corporations to do business in any other or in all other states. Certain states have been liberal in the powers which they grant to corporations, have made the filing fee low, or have offered other inducements for companies in other states to apply to them for charters. Most states provide that corporations chartered by other states must file a copy of their charter with a certain state official in order that the authority under which they do business may be definitely known to the officers of the state.

Use of the Corporation.—From the standpoint of purpose, corporations may be divided into three general classes. The first and by far the most important are those which carry on any of the common business functions. The second are those corporations which are organized for public or charitable purposes, such as churches, schools and lodges. The third are quasi-public corporations, such as steam and electric railway companies, electric light and power companies, and gas companies. Cities, counties, road districts, irrigation or drainage districts, and school divisions have some of the powers of business corporations, but because of their public nature are organized and operated on quite a different basis.

The corporate form of organization is used in all lines of business. Nearly all mines are operated by corporations. The same is true of practically all large scale logging and

fishing operations. With the exception of small bus lines, ferry boats, taxi lines, and a few short industrial railroads, all transportation businesses are organized as corporations. Banking and insurance enterprises must be corporations organized under the special laws governing such companies. With a few exceptions all public utilities are corporations. A large number of manufacturing enterprises are conducted by corporations, since for this type of business the corporations offer special advantages. Mail order houses, chain stores and the larger retail stores are usually incorporated because of the large amount of capital needed to operate such businesses. This enumeration of some of the principal uses of the corporation suggests that it must have certain advantages as a form of business organization. What these are is worth consideration.

Advantages of the Corporate Form.—Large-scale production in many lines of business has made it necessary to bring together large amounts of capital for the use of a single enterprise. Neither the proprietorship nor the partnership form of organization is fitted for use when large amounts of capital are necessary. The corporate form gives an opportunity by means of the sale of stock to many persons to draw on the savings of many people. Only by combining the capital of large numbers of individuals can modern large-scale business be financed. The American Bell Telephone Company has over 125,000 stockholders. Swift and Company is owned by over 26,000 persons. Many of these are employees of Swift and Company who own but a small number of shares each but many thousands are investors with no such personal interest in the company. By use of the corporate form of organization investors are justified in putting their money into projects located at some distance from them, for because of the methods of corporate control described in the following chapter, they are not called on for management duties other than those which can be carried on at a distance. This fact accounts for the

rather large investment which was made in American business by European capitalists prior to the war, and which is still of some importance. In some of the newer countries Americans are investing in attractive projects in a similar manner.

It has been shown above that one disadvantage of the partnership is the unlimited liability of each partner for the debts of the concern. Corporate stockholders are limited in their liability for company debts to the amount of their actual investment; that is, they can lose as a maximum only what they have invested if the concern is unsuccessful. An exception is found in banks and insurance companies where the limit is twice the amount of the investment. This reduction of risk has been very important in its effect on the financing of new companies; for investors have been willing to risk the amount of their contribution, whereas they would have hesitated before investing in new and untried enterprises without limitation of liability. This single factor has been one of the most important forces stimulating the industrial development of this and of other countries which have made common use of the corporation for new enterprises.

Continuity of life is another advantage of the corporation. The partnership form of organization is very definitely limited by the possibility of the death or disability of one of the owners and by the possible withdrawal of partners. The death of a stockholder in a corporation has no effect on the life of a corporation, for his stock passes to his heirs, or is sold to someone who takes his place as a stockholder. Of course, if the stockholder be also an executive of the company or if he is active in its management in any way, his loss will be keenly felt. But it is in his capacity of an executive rather than that of a stockholder that loss is important. If the new stockholder or holders control enough stock to change the policies of the company, the change of ownership may prove to be very important to the company. Especially would this be the case were the stock very closely held, by three or four people, for

instance, or by the members of one family, as is often the case. Then a death or sale of stock would very probably result in a change not only of management because of the loss of an executive, but perhaps in entire change of the policies of the enterprise.

The corporate form is very flexible in that it can be adjusted to cover practically any combination of ownership and management. Many stockholders—owners—have only such voice in the management of the concern as they exercise at stockholders meetings. In fact, that is all to which they actually are entitled. A few stockholders also serve as directors of the company and hence have a greater voice in management. Others may be paid officers of the company and at the same time stockholders, or both stockholders and directors. Thus an investor, his fellow stockholders so willing, can adjust his actual participation in management to his desires. No such situation obtains in either of the other forms. The proprietorship form involves, as a rule, the investment of time as well as of capital. With the exception of a few special kinds of partners described above, the same is true of the partnership. Because of unlimited liability few partners are content to stand at a distance and allow their associates to manage the business as they see fit. But the stockholder, unless he be a director or paid officer, can do this safely, for the corporate form of organization is built on the idea of delegation of management to the board of directors, and by them, to a large degree, to the officers of the company.

Disadvantages of the Corporation.—Offsetting the above real advantages and to some degree limiting the use of the corporation, are certain disadvantages. Because of the fact that the corporation is the creature of the state, that its right of existence depends on state action and grant of authority, the state as a rule retains certain control over it. Reports may be called for as the state sees fit, and as a rule corporations pay

higher taxes to both the federal and state governments than would a partnership doing the same volume of business of the same nature.

States limit the powers of corporations to which they grant charters. For example, no corporation, unless it is organized as a bank, can do a general banking business. State banks may be forbidden to operate branches. Railroads are required to secure the approval of the Interstate Commerce Commission for their rates. Service on rail lines cannot be curtailed or abandoned without permission. Churches are exempt from paying taxes just so long as they do not use any of their property for money making purposes. In general, such restrictions are not important or oppressive if the company has been properly organized and keeps within the bounds of its real purpose. But the state always has the right to step in and force the corporations to submit to such control as the state chooses to exercise.

The legal formalities necessary to form a corporation deter some business men from so organizing their enterprises. Charter fees, though not large, are just so much added expense. Proprietorships and partnerships have no such fees to pay. Some states require a definite annual fee from all corporations. Corporations have in recent years been singled out to pay an excess profit tax to the federal government. The corporation pays taxes on all its property to at least as great an extent as under either of the other forms, yet its stockholders must pay taxes in some states on their holdings of corporate stock. There is, therefore, a double taxation from which the other forms of business are exempt. These and other disadvantages may deter some small businesses from incorporating. For the large-scale business, however, and for those in which continuity of life is essential, they are relatively unimportant as compared with the very definite advantages of the corporate form.

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CHAPTER XIV

CORPORATE SECURITIES AND CONTROL

Business Ownership.—It has been shown above that under the single or sole proprietorship one owner has entire control of his business. He determines business policies and carries them out through his own action. He alone owns the different assets of the business. His title to them is shown by the various deeds, bills of sale, certificates of deposit, and other evidences of ownership which he holds. Under the partnership form two or more owners share the management of the business and together hold title to such real estate and personal property as may be owned by the firm. Title rests in the partnership; that is, deeds and bills of sale are issued to it under the name adopted for the business, which may be a combination of the names of the owners or some other name, such as the Capital Furniture Store, The Excelsior Manufacturing Company, The Food Shoppe, etc. Control in the partnership is as a rule equal for all partners; that is, each one has full authority to bind the firm by his acts.

Control and ownership of the corporation contrasts directly with similar functions of the proprietorship and the partnership, for in the corporate form of organization control is in direct proportion to stock owned. Title to the assets owned is in the corporate name and is passed on to each stockholder by means of certificates of stock ownership which show what proportion of the total stock, and thus of the total assets, of the company is owned by the person to whom the certificate is issued. There are several different kinds of stock each of which varies in its rights of control and of ownership. In addition to stockholders, bondholders in the case of companies which have issued bonds, have certain ownership rights which vary with

the kind of bond held. Something of the methods through which these different rights are exercised and a short description of how corporations are managed furnish the topics to be discussed in the present chapter.

Kinds of Stock.—The two most common kinds of stock are known as common and preferred. Early corporations had but one kind of stock, common, but as problems of finance became more difficult it was necessary to issue stock with certain definite rights and privileges. This was and is known as preferred stock. In general more shares of common stock are issued than of preferred. Often the common stock has a smaller par value. Many corporations are first organized with common stock only, and later amend their charter and issue preferred stock. Sometimes preferred stock is retired, that is, cancelled by purchase by the company of all such stock from its owners. The most important characteristic of common stock is the usual provision that it has no guaranteed rate of return. The company has no obligation to pay any dividends at all or any set rate of dividends to its stockholders. But it does have the very definite obligation of accounting to them for all earnings made. After all obligations of the company have been met, including dividends to preferred stockholders if any exist, the balance remaining is available for dividends to the common stockholders. These stockholders, acting through their board of directors, may decide to leave all or a part of this balance in the surplus fund, or may invest it in new buildings, machinery, or in added lines of merchandise. Thus the return to the common stockholders is dependent on the prosperity of the company, that is, on its earnings. In periods of depression, or when the company is new, common stockholders may receive very small dividends or none at all for a number of years.

Preferred Stock.—Preferred stock is so called when it has preference as to dividends and assets and voting power. By this it is meant that it has first call on all earnings of the com-

pany up to the rate of return which the stock is to pay. This may be 5, 6, 7, or 8 per cent, 7 per cent being the most common figure. Thus each owner of preferred stock must be paid, in that case, $7 for each $100 share of preferred stock which he holds before the common stockholders are entitled to any dividends. It may be provided that if the company does not have net earnings enough in any one year to pay the preferred dividends, payments shall be made at a rate which shall exhaust the profits but which may be lower than that supposed to be paid to the preferred stockholders. In that case each year stands by itself. If the profits are large the following year, the common stockholders will receive all over the amount necessary to pay on the preferred stock.

Many companies issue what is called cumulative preferred stock, that is stock on which unpaid dividends accumulate from year to year as a charge against future earnings. For example, suppose a company has issued $50,000 of common stock and $25,000 of 7 per cent preferred. Earnings for a given year available for dividend payments are $1,200. It is evident that the 7 per cent promised to preferred stockholders cannot be paid, for that would take $1,750. Hence only a 5 per cent dividend would be paid to the preferred stockholders and nothing to the common stock owners. If the stock is non-cumulative, the matter is ended with that payment and all obligations to the preferred stockholders as well as to those holding common stock are discharged. But if the stock is cumulative the obligation remains to pay the unpaid 2 per cent at some future date. If the earnings the next year are $5,200 net, they would be distributed as follows: An amount of $1,750 would be paid to the preferred stockholders for the current year's dividends, and in addition they would receive $500 in discharge of the obligation carried over from the preceding years. The remaining $2,950 would allow a 5 per cent dividend to be declared on the common stock, and all amounts not so used would be carried over to the next year. In case of

dissolution of the corporation it is usually provided that preferred stockholders have prior claims on the assets to an amount sufficient to repay to them the par value of their holdings. If anything is left it is distributed pro rata to the common stockholders.

Corporate Control.—Control of the corporation is usually placed in the hands of the common stockholders since they share in the distribution of dividends only after preferred stock holders have been paid. Control is exercised through the board of directors elected by the common stockholders alone, and through officers and employees selected by the board of directors. This provision is based on the idea that the common stockholders assume more risk than the holders of preferred stock and should have the management in their hands in order that the risk of receiving low dividends or none at all may be minimized; for they alone are responsible for the poor showing made. A frequent provision in corporate charters gives the preferred holders the right to take over the management of the company by the election of a board of directors if dividends on preferred stock have been passed for a certain number of years or if they have accumulated to a certain figure. The idea is that the condition of the company when this occurs is such that the investment of the preferred stockholders has become hazardous and that they should have a chance to protect their interests. When they have restored the company to prosperity, control passes back to the common stockholders.

Preferred stock is frequently given the right of sharing in the earnings of the company to a degree greater than that guaranteed by the rate of return set for the stock itself. Such stock is known as participating preferred. For example, if it is often provided that the preferred shareholders shall be paid 7 per cent; the common stockholders shall then receive 10 per cent on their holdings; and if further earnings are

available, they shall be divided equally between the two classes of stockholders. Many variations of this principle are found in practice. Redeemable preferred stock is frequently issued; that is, stock which may be redeemed by the common stockholders when they so desire by paying to all holders the par value of the preferred stock, or in addition to the par value a certain premium set when the stock is issued. The reason for its use is found in the desire of the common stockholders to remove all prior claims to earnings and to assets, so that they shall be placed in the position of having first claim on the company.

Why Two Kinds of Stock.—There are a number of reasons for the use of both common and preferred stock and for the different kinds of preferred stock issued. One reason is that there are in general, three classes of investors who are interested in corporation securities. One class wishes to take little if any risk and buys bonds secured by mortgages on the assets of the company, but with a comparatively low return. Since this type of investment appeals to many people, bonds are issued to attract their funds and to allow them to participate in the financing of industry. A second class of investors wishes to secure increased returns and is willing to assume a larger measure of risk. For this class of investor preferred stock issues of sound companies are attractive. There is always the risk that the guaranteed rate of return will not be met because of lack of earnings or that its payment will be deferred for one or more years. Investors who depend on income from this type of investment for meeting living expenses may be greatly inconvenienced by such passing of dividends. Moreover, the risk of failure of the company with available assets too small to return the par value of the preferred stock must always be faced by buyers of preferred stock. But as reward for assuming these risks, such investors receive a return which is 2 or 3 per cent greater than that paid to bondholders of the same

company. The third class of investors, desiring great gains, are willing to assume corresponding risks. Hence they buy common stock which has no guaranteed rate of return and which is often rendered valueless by the failure of the company. But if earnings are large the common stockholders may receive the larger share. The chance of such large returns interests many investors, and hence furnishes a demand for common stock. To meet the desires of these three classes of investors bonds and two kinds of stock are issued by many companies.

A second reason for having at least two kinds of stock is found in the desire of those who discover what appears to be a profitable business opportunity to retain control of the company and to retain claim on the major portion of the profits. For example, a small group of people recognize a particularly good merchandising or manufacturing opportunity but are not able to furnish all the capital needed to develop the project. Hence they may borrow some money by issuing bonds secured by the tangible assets of the firm, such as real estate or machinery. Other funds are secured by the sale of preferred stock which, although it gives its holders claim to the first earnings of the company after bond-holders have been paid their interest, is definitely limited in its claim on the total earnings. If the earnings are as great as anticipated, the return upon common stock will be far greater than that paid on the preferred. In this way a new company can be financed without the loss by the incorporators of their claim on the major part of the prospective earnings.

Corporate Expansion.—A third reason for the use of both common and preferred stock is illustrated as follows: Let it be assumed that a small retail store which has been operated as a partnership wishes to expand and become a much larger department store. Additional funds must be secured by the sale of bonds secured by the building, and by the issue of the

two kinds of stock. The old firm has as a part of its intangible assets a considerable amount of good will built up by years of fair dealing. It may have developed a private brand which is of considerable value. Efficient clerks and department heads will be transferred to the new corporation. All these and other items, although intangible in nature, are valuable. It is frequently the custom to recognize this fact by the issue of a designated amount of common stock to the partners of the former firm; preferred stock is issued to them for their cash contributions and for the merchandise, fixtures, etc., taken over by the corporation. Thus the common is issued for the intangible assets, and the preferred for the tangible property. This arrangement is fair to all, for if the earnings of the new corporation are great enough to allow considerable dividends to the holders of common stock, their size is often the result of the contribution to the success of the business which has been made by the intangible factors that were recognized by the issue of common stock. Patents, trade-marks, copyrights, processes, etc., are often represented or paid for by the issue of common stock in a corporation formed to develop them, the cash invested in their development being represented by preferred stock and, in some cases, by bonds.

A fourth reason for the use of preferred stock is found in its virtual substitution for bonds in cases where first mortgage bonds cannot be issued because the assets are not subject to mortgage. In this case, because of their prior claim on assets and on earnings, the preferred stockholders are virtually in the place of bondholders.

It will readily be seen why it is true that common stock often sells for more on the market than does preferred. As soon as a company establishes a dividend record on common of more than that paid to the preferred holders, the common will sell at a higher rate. It will fluctuate with the amount of the dividends, but if they are consistently higher than the 6 or 7 per cent paid on preferred, the price of the common will

be higher. During the early years of many companies, when they are establishing their business, the common stock sells at a very low price; but it constantly climbs in price as dividends become established at a higher rate.

The Use of Bonds.—Many corporations find it desirable to increase the amount of money available for use in their business by the sale of bonds. A bond has been defined as a "formal promissory note." Like the promissory note it is issued in return for money which has been borrowed and which must be repaid at a definitely stated date; like the promissory note also it involves the payment of a definite rate of interest on the amount borrowed for the life of the loan. But it is unlike the promissory note in several respects. In general a note is not secured by any specific piece of property, but only by the general assets of the business, or of the individual borrower. An exception to this is the use of collateral security for loans.[1] But bonds are usually secured by a mortgage placed on specific pieces of real estate or on other property. Promissory notes are not often issued for a period longer than 5 years, with the great majority having a life of less than 1 year. Bonds are rarely issued for less than 5 or 10 years, the more usual period being from 20 to 40 years. Because of their greater security most bonds bear a rate of interest lower than that which is common for promissory notes.

The Security for Bonds.—Corporation bonds are in general secured by a first mortgage on real estate. Suppose, for illustration, that a company is formed to build a hotel building at the estimated cost of $500,000. In this case it would be necessary to sell perhaps $200,000 worth of common and preferred stock, the division between the two classes varying with different conditions. The remaining $300,000 could then be raised by the sale of bonds secured by a mortgage on the building. Were it possible to borrow this amount of money

[1] See Chapter XVII.

from one person a simple mortgage could be issued to him as security for his loan. But not many persons would have this amount of money to loan at any one time, and even if a person were found with that amount of money available, he would prefer to scatter his loans in order to distribute the risk. Hence it is necessary to borrow the amount from a considerable number of persons. Mortgages issued on any property rank in order of issue; that is, a first mortgage has first claim on the property which it covers if the interest and principal are not paid as promised. The holder of a second mortgage has the next claim, and the holder of a third mortgage is next in line. For this reason the different investors would not consent to the issue of a separate mortgage for each individual, for each investor would desire to be protected to the same extent as all others making loans on the same security.

A single first mortgage which covers the entire amount of the loan is issued and is used as security for the amount of the bond issue. This mortgage is issued to some person or some bank or trust company which acts as trustee for the different bondholders; that is, the trustee represents them and holds the one mortgage as security for the loans of all. The trustee has bonds printed totaling the amount of the first mortgage loan, and issues them to the various persons who together are making the loans. They pay their money to the trustees and receive a bond in exchange. He in turn gives the money to the company which is erecting the hotel. Interest is paid by the company in one lump sum to the trustee, who distributes it to the bond holders. In this way one straight first mortgage issue on the hotel building serves as security for a large number of bondholders, each of whom has contributed a portion of the funds necessary for the erection of the building.

In some cases it is impossible to raise enough money to finance a project by the sale of bonds based on first mortgage security, for frequently careful financial policy limits the amount of the first mortgage loan to about 50 per cent of the

value of the property. In this case a second mortgage for the difference between the amount of the first mortgage loan and the amount contributed by the stockholders is issued to a trustee under the same plan as that used for the first mortgage loan. Because of the lessened security of the second mortgage, bonds issued on it commonly bear a higher rate of interest than do those issued under a first mortgage. Third mortgages are rarely if ever used as security for bond issues, but sometimes are used in real estate financing by private individuals.

Why Bonds Are Issued.—There are a number of valid reasons why many corporations are financed by both stock and bond issues. There is a considerable number of investors who wish to invest in securities which involve less risk than the purchase of either common or preferred stock.[2] Hence the issue of bonds allows the corporation to draw on the capital reserves of this rather large class of investors. Promoters of a business which promises to yield large returns wish to limit the amount of preferred stock issued in order that large dividends may be paid on the common stock which they, the promoters, hold. They therefore secure as much as possible of the capital necessary for operation of the business by the sale of bonds. In this way only the market rate of interest need be paid for the part of the funds secured by the bond issue and thus the larger part of the profits are available for distribution among a comparatively small number of stockholders. A third reason for supplementing stock issues by bonds lies in the future possibility of retiring a part or all of the bonds from the profits of the business. Were common stock sold for the entire amount needed, it could not be retired and the prospective profits would always be divided among a larger number of persons than would be the case if bonds were sold. This consideration is of very real importance in many cases. A fourth reason for supplementing stock issues by bonds is the desire to

[2] See page 288.

reduce incorporation fees and taxes by holding down the capitalization of the corporation as much as possible; for in general these charges vary somewhat in proportion to the amount of capitalization.

The issue of bonds involves a definite obligation to meet interest payments and to return the principal when it becomes due. Common and non-cumulative preferred stock issues involve no definite commitment to pay dividends at a definite date. They are therefore favored by conservative companies who do not wish to risk the foreclosure of the mortgage which secures a bond issue should interest on the mortgage not be paid.

A further reason for the use of both stock and bonds by many businesses lies in the essential difference in the nature of the two types of securities. The bond is not an evidence of ownership but is a lien on a part of the assets of the company. It is a loan, not a share in ownership, management, and control. Stock owners participate in profits and in losses. Bondholders do not, but instead receive a definite rate of return on the loan made to the company. Interest on a bond must be paid regardless of the state of business. Dividends on stock are paid only when the condition of the company justifies such payment. Bond owners because of their definite rate of interest have a prior claim on the earnings of the business. Stockholders receive what is left. In case of dissolution of the company bondholders have first claim on the assets covered by the mortgage securing the bonds. Stockholders receive what is left from the sale of the assets. Because of these differences there is little speculation in the ownership of bonds. But in most cases stock ownership is speculative. An exception is the preferred stock, and sometimes even the common stock, of well established companies, the earning power of which does not vary greatly from year to year. The chance of comparatively high dividends in these conservative companies gives whatever of speculative nature there may be to their stocks.

It should not be understood that bonds are issued only at the time of organization of a company, for they may be issued at any time. Whenever definite assets which can be covered by a first or second mortgage are added to the company, new bonds may be issued. For example, railroads are financed by the sale of bonds secured by a mortgage on the new line. If the hotel company mentioned above decides to add to the hotel, a part of the cost may be covered by the sale of additional bonds.

Kinds of Bonds

Collateral Bonds.—So far in this discussion reference has been made only to bonds secured by first or second mortgages. Although this type of bond is the most common and offers perhaps the most conservative investment, a number of other kinds of bonds are issued. For example, instead of the use of mortgages or real estate as security, collateral such as bonds or stock of other companies may be deposited with the trustee as security for repayment. Securities of subsidiary companies are often used for this purpose. For example, a railroad may purchase another and smaller line of road and secure the funds for the purpose by deposit of the stock of the subsidiary company with a trustee. It is quite common to deposit first mortgages on real estate as the basis for a bond issue for further loans. It is customary to limit such bond issues to about 80 per cent of the value of the deposited securities in order to protect the bondholders against any possible or probable shrinkage in the value of the securities deposited. The trustee collects the interest due on the deposited securities and pays it out to the holders of the bonds based on such collateral.

Equipment Trust Bonds.—Railroads often use equipment trust bonds. New locomotives or cars are purchased, and title to them is given to a trustee who issues bonds up to perhaps 75 per cent of their cost. Provision is made for the retirement

of a certain part of the bonds each year in order that the depreciation of the equipment may not lessen the security back of the bonds. When the bonds are paid off title passes from the trustee to the railroad company. Some use of this type of bond is made by companies other than railroads.

Debenture Bonds.—Other types of bonds are somewhat speculative in their nature and because of this fact pay a higher rate of interest than bonds which have better security back of them. One type, the debenture bond, is secured only by the general assets and good will of the issuing company and is issued directly by the company without the use of a trustee. Such a bond depends for its value on the success of the issuing company. Frequent use is made of it in the case of a company which has a large amount of good will and other intangible assets, but a comparatively small amount of tangible property which could be mortgaged for the sale of other types of bonds. Debenture bonds are also issued in cases of reorganization where some sacrifice of security must be made by the creditors of the reorganized company. Debenture bonds have a definite claim for payment of interest on the profits of the company, for they bear a set guaranteed rate of interest. Opposite in nature is the income bond, which does not guarantee any definite rate of interest payment and pays interest only when the issuing company has a surplus over and above all prior claims. It is, however, secured by a mortgage on real estate. It is naturally not an attractive bond and is used primarily in reorganizations. In this case it is accepted by investors as better than nothing, in that it is well secured and may pay interest if earnings permit.

Coupon Bonds.—Another classification of bonds is made on the basis of the method used for interest payments. Some bonds are known as registered bonds; that is, the name of the owner of the bond is registered with the secretary or other officer of the issuing company. Interest is paid by check directly

to the holder of the bond. When the bond is sold ownership must be transferred on the books of the company, and the bond must be indorsed just as is a check when it changes hands. If the bond is lost or stolen it cannot be transferred except by a forged signature. The person into whose hands the bonds have fallen cannot be recorded as owner of the bonds without the authority of the actual owner. The other and more common class of bonds is known as coupon bonds. Interest is collected by detaching a coupon from the bond and presenting it to the company, usually through banking channels, for payment. Such bonds have the advantage of being easily and quickly transferable without indorsement and without change of ownership on the books of the company, for the company issuing the bond need not and does not know who its bond owners are. For this reason coupon bonds are much more widely used than are registered bonds.

Public or government bonds are much like corporation bonds except that they depend on the general credit and taxing power of a political unit for their security rather than on a definite mortgage or other security. Such bonds are considered the safest of all investments, for there is little chance that interest will be defaulted or payment of the principal refused. Like most other bonds, they are attractive from an investment standpoint also because of the fact that the owner has no obligations to fulfill nor any of the responsibility or trouble which may follow investment in real estate or in an active business. Public bonds are issued by the federal government, by the various state governments, by counties, municipalities, school districts, road districts, paving districts, and irrigation and drainage districts.

Payment of Bonds.—The issue of bonds involves an obligation to repay them at a definite future date. As will be shown below, it is not wise to postpone provisions for paying bonds until they become due. In order to avoid the necessity of

paying the principal on an issue of bonds all at one time two plans are used. One plan provides for the issue of serial bonds; that is, the bonds are issued in series, one series maturing each year during the life of the issue. For example, if the bonds are 20-year bonds, one-twentieth of the bonds will mature and be paid off in each of the 20 years.

The second plan provides for setting aside a certain amount from the earning of the company each year to be used in paying the bonds when they are due. Funds so set aside are held as separate funds of the company. They may be deposited in a savings bank, or used in the purchase of bonds of other companies which have a ready sale. These two plans are widely used by political units for they can meet the obligations of a serial bond issue by a tax levy each year, or they can use the proceeds of the levy for creating the sinking fund for paying the bonds when they are due.

The Management of the Corporation

Stockholders' Meetings.—It has been shown above that control of the corporation lies in the stockholder. He is the owner, and as such he is responsible for the management of the business. By means of a board of directors and by means of officers and employees the active management of the business is shifted from the shoulders of the stockholder; yet the powers of the directors and of the officers and other employees are merely powers delegated to them by the stockholders. These facts kept in mind, it is easy to see that the infrequent meetings of stockholders have possibilities of great importance.

Stockholders' meetings are regular and special. In most corporations an annual meeting of the stockholders is provided by the by-laws. In some cases these meetings are routine in nature, but often matters of policy of considerable importance are discussed. For example, stockholders must approve or disapprove in their annual meetings proposed increases in

capital stock or proposals to issue bonds. They are often called on to determine the corporation's financial policy regarding the creating of a sinking fund. The board of directors has a right to refer to stockholders' meetings any policies or matters on which the board wishes the advice of the stockholders, or to ask them to settle important matters which they believe justify the action of the owners of the business. Special meetings of the stockholders may be called at any time by the board of directors to pass on any matters which they wish to refer to them for action. In many corporations the failure to refer many important matters to the stockholders' meetings limits the interest in these meetings. Many stockholders do not attend the meetings even if they are so situated geographically as to make attendance convenient. When thousands of small stockholders are scattered over the entire United States, as they are in the case of many of the big national corporations, the attendance at meetings is impossible. For this reason proxies are used to a considerable extent. By this is meant the grant of the right to represent a stockholder and to cast the number of votes to which he is entitled to some other stockholder who plans to attend the meeting. When two or more groups of stockholders are struggling for the control of a corporation and the right to determine its policies, a definite effort is made by each side to accumulate all possible proxies. But when nothing of importance is expected to be transacted at a certain meeting, little or no effort to collect proxies is made, and the votes of stockholders who do not attend the meeting are not cast.

The Board of Directors.—It has been shown that in the partnership each partner has the right to act for the firm and to bind it by his actions. But no such right belongs to the individual stockholders of a corporation. A stockholder in a department store has no right to place an order for a bill of goods for sale in the store. Goods so ordered need not be

accepted by the store when they are delivered. In corporate organizations, the board of directors controls the corporation and they alone have a right to bind it by their actions, except for such matters as may be referred to the stockholders for their joint action at a stockholders' meeting. But in this case decision is made by the stockholders as a whole, or by those represented in the meeting, and not by any one individual stockholder. The board of directors may delegate authority to officers or employees selected by the board, but it is responsible to the stockholders for the actions of the employees so selected.

Directors are elected by stockholders at the annual meeting of the corporation. The number varies from 3 or 5 up to perhaps 15 or 20 in some cases. Usually where there are but 3 or 4 stockholders in a corporation all are members of the board of directors. Most states require that directors must be stockholders, but ownership of as few as one or two shares meets this qualification. Usually directors are large stockholders in the corporation, and therefore their interest in its welfare makes them willing to give the time necessary to act as directors. Persons holding only a few shares are usually willing to trust the judgment of the principal stockholders. Inasmuch as election of directors takes place in the stockholders' meeting, where voting power is in proportion to shares held, the larger stockholders can easily join together and elect themselves as directors. In some cases the smaller stockholders wish to have representation on the board. This can be accomplished by electing one of their number by the combined votes of the smaller stockholders.[3]

As has been indicated meetings of the board of directors are regular and special. The time of the regular meeting is usually provided by the by-laws. Special meetings are held at the call of the presiding officer of the board. Unless forbidden by the corporation laws of the state in which the company is incorporated, meetings may be held outside the state of incorporation.

[3] For methods used, see W. H. Lough, "Business Finance," page 97.

This provision is important in the light of what was said above relative to the common practice of incorporating under the laws of a state other than the one in which the majority of the business is done and in which most of the members of the board live.[4]

Duties and Powers of Boards of Directors.—One of the principal duties of boards of directors is the election of the officers of the corporation. These men carry on the active management of the company and hence must be selected with considerable care. This can better be done by the comparatively small number of directors than by the stockholders in their annual meetings. The principal officers so selected are often, if not generally, members of the board of directors and stockholders in the company. Stockholders as members of the board and as officers have certain duties, but their duties as officers and as employees are distinct from those in their other relationships to the company.

General policies of the company are decided by the board of directors. For example, should a men's clothing department be added to a department store? Should a branch agency be established in one of the Pacific Coast cities by a manufacturing company? Should the same company undertake the manufacture of a new product? Should a vegetable canning company sell its products directly to chain stores or confine its distribution to independent grocers who are sold through the agency of grocery wholesalers? Should an interurban railroad company purchase a line of motor busses and engage in the bus traffic as well as in that for which it was organized? Details of carrying out these policies are left to the different officers, but the advisability of the proposed action is determined by the board of directors, or is in some cases referred by them to the stockholders for decision.

The board of directors is responsible for the general finan-

[4] See page 281.

cial plan of the company, or at least it must pass upon such financial matters as are referred to it by the treasurer or comptroller of the company. For example, it may be proposed by the treasurer that certain financial needs of the company can well be met by the issue of a definite amount of 5-year notes. Alternate plans might be the sale of additional stock or the issue of a series of bonds to raise the required funds. The board of directors must decide which is the best method. If it decides to increase the capital stock or to issue bonds, it is usually necessary to secure the approval of the stockholders.

Determination of Dividend Policy.—Directors must determine the dividend policy of the company. Let it be supposed that a certain amount is available from net earnings for payment of dividends. It is felt by some directors, that the entire amount should not be so distributed, but that a portion of it should be set aside in a sinking fund for the future erection of an addition to the plant. Other directors believe that another portion of the earnings should be used for purchasing new equipment at once, and that an extensive advertising campaign should be started. The board must decide just what to do in a case of this kind.

These few examples of the many problems that face a board of directors show that the position is one of responsibility. It is not an over-statement to assert that the success of perhaps a majority of corporations depends on the care which is exercised in the selection of the board of directors and upon the measure of wisdom shown by the board in carrying out its duties. Able officers and capable employees must be selected if the company is to succeed, but the board is responsible for their selection. Officers must be checked at times and stimulated at other times by the members of the board of directors. At all times it does or should act as a balance wheel for the corporation.

The duties of most boards are so varied and so detailed in some respects that it is customary to carry on a considerable part of the business of the board by committees. These committees study the various matters referred to them in detail and make recommendations to the entire board. Usually the decision of the committee is confirmed by the board but not necessarily so.

Officers of a Corporation.—Many of the larger corporations, especially banks and manufacturing companies, select one of their older directors to serve as chairman of the board. As such he presides over the meetings of the board of directors, but aside from that his duties do not differ from those of other members of the board. The position is largely honorary in nature but there is some tendency to assign a number of active duties to this officer. The director selected to be chairman of the board usually gives part of his time to administrative duties. He represents the company in its external relations, such as in its relations with other boards of directors and in certain phases of its relations with the general public. He serves as general advisor to the officers of the company and to the board itself. He is chosen as a rule because of his age and experience. In many cases he has been the active president of the company, but having reached the age of retirement, he retains only such duties in the company as those above described. A younger and more active man is usually chosen as the president of the company. As such his duties in the company are connected with the actual administration. He is the person to whom the board of directors looks to correlate the various activities and policies of the company and to carry out the decisions made by the board. If there is no chairman of the board, as is the case in the great majority of corporations, the president of the company is the presiding officer of the board. Usually the president is a member of the board of directors but not necessarily so. In rare cases he may not even own stock in the

company. In some companies, and often in the case of banks, the president is not an active full-time employee of the company, but has duties similar to those described as belonging to the chairman of the board. In this case a general manager of the company carries out the principal administrative duties.

Other Corporate Officers.—Corporations may have one or more vice-presidents. They may be active or full time employees or may simply be honored by their fellow members of the board of directors with the title. In this case they are in reality only ordinary members of the board. Banks and many other corporations have a number of vice-presidents each one of whom is actively in charge of a department of the company. For example, in a manufacturing company one vice-president may be in charge of production and another of sales, while a third is responsible for the financial affairs of the company. A department store company may provide that one vice-president shall be in charge of and responsible for all the buying activities of the company, and that another shall be in charge of the company's advertising.

The treasurer varies in importance in different companies. In the absence of a comptroller, he is usually given active charge of the finances of the company, to the extent that he not only holds all funds and securities belonging to the company, but is also responsible for negotiating loans, floating new stock and bond issues, and making such financial budgets as are used. In many companies a comptroller is appointed who handles the larger matters of financial policy such as those just mentioned. In this case the treasurer has charge of the cash and the bank accounts of the company, and keeps securities owned by it in a safe place. He signs all checks and may be responsible for the accounting and credit departments of the company. He may or may not be a stockholder or a director. Like those of all the other officers of a corporation, his duties vary widely in different organizations.

Boards of directors elect a secretary, either from their number, or from the employees of the company. He keeps a true record of the transactions of the board of directors. He notifies all officers and employees of the company of any action of the board which affects them. He has charge of the mechanics of the issue and transfer of the capital stock of the company, except in the case of the larger corporations which appoint a bank or trust company to have charge of stock transactions. Among the other officers, usually elected only by large corporations, are the auditor, who has charge of the accounting department, and a general counsel, who advises on legal matters.

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CHAPTER XV

BUSINESS COMBINATIONS AND AGREEMENTS

Introduction.—Industrial organization is ever changing. An illustration of this fact is found in the history of the forms of business organization which have been used in this and in other countries. The corporation was developed to meet the needs of industry in the nineteenth century, for the proprietorship and the partnership had proved to be inadequate for carrying on production and distribution of commodities when the scale of operation was increased. This chapter deals with the developed forms of the corporation which arose when industrial leaders realized the desirability of some form of organization whereby several corporations could be combined to secure unity of action. Various methods for securing this unity of action were developed, used and discarded as they proved either to be inadequate to secure the desired results or to be illegal. The business combinations or trusts which exist today are the result of the development in forms of organization which has taken place. Some consideration of the objects of business organization combinations and the methods which have been used to reach these objectives is therefore of interest.

Reasons for Business Combinations.—One of the principal reasons for combination of corporations is the desire to secure the greatest advantages of large scale production and of specialization. If a number of separate plants are combined, each plant can specialize in the production of that part of the product for which it is best fitted, or can make just one part of the completed whole. Combination in the automobile industry illustrates this, for, as was shown above, the General Motors

Corporation[1] operates a large number of plants, each of which makes only a part of a complete car. This allows the fullest use of machinery, of division of labor, and of specialization in management. Another advantage is illustrated by the experience of the so-called whiskey trust, formed in 1887. By uniting about 80 distilleries under one management it was possible to close 68 of the plants and to carry on production only in the best equipped and most efficient plants. Other combinations have been able to make similar savings.

Desire to control prices has no doubt been the reason for the formation of many so-called trusts. If it is possible to combine a number of competing companies and thus give the new organization control of the supply or of the demand, prices may be set at a higher level than before the combination. Many of the most famous trusts were formed for this reason. But price control has not been the sole, or perhaps even the principal reason for super-corporate organization. Control of raw materials has been another important object sought to be obtained by combination. Several of the combinations in the steel industry were formed in order to place under one management large reserves of iron ore, coking coal, etc. A third object has been the desire to eliminate certain wastes of competition.

Forms of Combination.—Two examples may be cited of forms of combination which have no monopolistic intent. In a number of retail lines cooperative buying associations have been organized whereby a number of retailers may pool their orders for certain goods and thereby secure larger discounts and lower prices because of the quantities purchased. Chain store systems have sometimes been formed by the union of a number of independent unit stores. In the case of such combinations, monopolistic features are lacking.

Use of the Pool.—The earliest definite attempt to develop any type of the super-corporation or combination of corpora-

[1] See page 115.

tions resulted in the formation of what were called pools. With the expansion of industry which followed the Civil War, production in many lines caught up with demand, and by the last quarter of the nineteenth century competition had become severe. As a result attempts were made in many lines to restrict either the number of competitors or some of the methods used. One of the earliest forms of pool was known as the gentleman's agreement. No formal super-organization was formed, but a number of competitors agreed to do certain things. They might agree not to pay over a certain amount for raw materials, thereby holding prices below that amount, or they might agree not to sell their product below a certain figure. Agreements on discounts and terms of sale have often been made in this informal manner. Certain objects can very well be attained by the gentlemen's agreement and it is still rather frequently used.

Output pools assign a certain output to each member of the pool. In this way the total produced by the industry is limited and prices are thereby increased. Pools were commonly used in the early combination period to divide the territory. The entire country was divided into districts and each district was assigned to one member of the pool. In this way competition was reduced. An international pool in the tobacco industry illustrates this latter type of pool. In 1902 the American Tobacco Company agreed with the Imperial Tobacco Company, a British concern, that each should operate undisturbed by the other in its own country and in colonies of the mother country, and that a third company should be formed by the two companies to carry on the tobacco trade of the rest of the world. Pools have been superseded to a large degree by more formal and more definite forms of agreement, but still are used for the accomplishment of certain specific purposes. For example, pools have recently been used in ocean shipping for several purposes. In some cases routes have been divided between the competing companies; in others traffic—such as the

steerage business—passengers have been divided in such a way as to assign a certain number of passengers to each of the companies entering the pool; and in a few cases rates have actually been set by the pool.

The Trustee Device.—Between 1889 and 1890 the trustee device was widely used as a form of combination of the interests of competing companies which wished to unite under one head. As developed by its first user, the Standard Oil Company, the idea provided for a board of nine trustees to whom were transferred the certificates showing stock ownership in a number of hitherto independent oil companies. In return for the transfer of this stock, the trustees issued "trust certificates" in proportion to the number of shares of stock which had been transferred to the trustee, and thus they had control of the affairs of all the participating companies and could operate them as one company. The device was successful, for it was more formal than the pools which had been used to accomplish the same purpose, its life was longer, and it gave more definite control to the directing heads. Trusts, as they soon same to be called, were quickly organized in such industries as cotton oil, linseed oil, whiskey, sugar, lead, and cordage. The very success of the method proved to be its downfall, for state laws were passed to limit or prevent the use of the trustee device, and in 1890 the Sherman Act, a federal law, made its use by companies engaged in interstate commerce unlawful.

The Holding Company.—To take the place of the unlawful "trustee device," business men wishing to consolidate their companies developed the use of the "holding company." This type of organization is very much like the "trustee device" except that a new corporation is formed which at once secures a controlling interest in the corporations which plan to unite their interests. Actual title to the shares passes to the new corporation. Each of the older or operating corporations remains intact. It has its own officers and its own board of

directors, but the directors of each company are elected by the board of directors of the holding company because the holding company has title to a majority of the stock of the operating companies. This plan had not been developed earlier because until about 1890 no state had given corporations organized under its laws the right to hold stock in other corporations. But in that year New Jersey permitted its corporations to do so, and other states soon gave the same privilege. This form of organization had wide use for a few years until a decision of the Supreme Court in the Northern Securities case made its further use impossible when it could be shown that the reason for organizing the holding company was to secure some form of monopolistic control of an industry. If no such intent can be shown, or if monopoly does not develop as a result of the formation of a holding company, the holding company plan is legal. In fact it is now very widely used to unite the interests of a number of corporations under one management.

Other Methods of Combination.—Another method of securing joint action by a number of corporations is rather informal in its nature. In many cases either by accident or intent certain active business men in the same industry are members of the boards of directors of several competing companies. It is easy for them, especially if they happen to be a majority of the boards, to control the policies of their companies in such a way as to limit competition between them, and in some cases even to secure a considerable degree of monopolistic control of the industry through such membership. This situation is often referred to as one of "interlocking directorates." It has been especially common in the railroad world. The same purpose is often accomplished by what is know as "community of interest;" that is, several supposedly competitive corporations have much the same body of stockholders. Because of this situation such corporations often work together to accomplish results similar to those which are obtained under more formal

types of organization. For example, if three manufacturing companies in the same field have a very considerable number of common stockholders, it might easily be true that each of the three companies might take a certain section of the country in which to push sales actively, and might work in the sections assigned to the other companies only in a very cursory manner. One company might develop foreign trade, and the others keep out of that field. If one company has an able young executive who for different reasons cannot be promoted, he may be transferred to another of the associated companies which has a larger field for him.

Two other methods of securing joint action, community of interest and interlocking directorates, are both open to the same objection from the standpoint of their promoters, namely, that they are so informal in nature that they cannot be effectively used where definite amalgamation or consolidation is desirable. Yet they are widely used and will continue to be used for such purposes as they seem to fit.

Combination is often accomplished by means of a lease. One corporation and its properties are rented outright to another corporation for a given term of years or sometimes forever. A set sum is paid as rental. This plan has often been used by railroads and sometimes by industrials for a short period of time. It has few advantages over outright consolidation except that it reduces the amount of used capital necessary; it is therefore not a common method of consolidation of corporations.

The Modern Method.—The modern and the most common method of securing combination and consolidation is by means of an outright merger. This is accomplished by one corporation purchasing the assets of another corporation, and the later dissolution of the purchased corporation. By frequent repetition of this process one concern may come to be dominant in its industry, or it may even attain monopolistic powers. Just

so long as it keeps competition on a fair basis and does not seek to "freeze out" minor companies or force them either to sell or go out of business, the process is legal. The corporation which enlarges its field and its business by merging other companies with it, is still a straight corporation and does not present any particular problems of corporate organization. An early example of the merger was the formation of the American Tobacco Company as a consolidation of five cigarette companies. The International Harvester Company was formed by merging 7 or 8 formerly independent harvester and other machinery companies. As shown above chain store companies have been formed in this way. Several examples of the merger of department store companies into a single larger operating company might be cited.

The Economies of Combination.—There is little doubt that many combinations of business units have been made primarily to secure monopolistic control of industry. Control of prices of raw material has been sought as well as the power to set the price for the products of the industry at a level somewhat higher than would exist under competitive conditions. However, it is likewise true that many combinations have been made in which the dominant idea was not monopoly, but the desire to realize certain economies which it was believed could be brought about by the combination of a number of companies into one corporation which could operate on a somewhat larger scale than could any one of the combined companies.

Supposed economies of combination take several forms. Raw materials can be purchased more cheaply because of the large scale on which such purchases can be made by a combination. But there is no reason to believe that a trust can buy more cheaply than can any single independent company which could buy in equally large quantities. Because of control of a large part of the supply of any commodity a trust can perhaps dictate terms to the distributors of its products. For example,

evidence shows that the former tobacco trust gradually reduced the margins which it allowed its jobbers. It was also able to prevent its jobbers and their dealers from handling lines of tobacco manufactured by independent companies which were fighting the trust. The trust had control of certain brands which the dealers must have, and could thus dictate terms to them. Other trusts have similarly dictated in other lines. Trusts have had an advantage in dealing with labor, for if a strike closes one plant, shipments may easily be made from other plants not affected by the strike. It is usually hard for a union to tie up all the plants of a trust. Other economies of the trust form of organization are found in the favorable terms which trusts are able to secure from banks, and in the concessions and even rebates which have been received from different railroads in return for shipment of products controlled by the trust over certain railroad lines.

Other Economies of Combination.—Trusts are usually able to operate their plants more steadily than can independent companies, for by operating only its more efficient plants, and by building new plants in accordance with probable demands of the country as a whole for its products, the trust can avoid some of the great variations in demand, which are an aspect of the business of individual plants. Because the trust sells in a much wider area than does the average independent plant it is less affected by variations in industrial conditions in certain sections of the country, with resulting variation in the demand for its products. Important economies are made by production of goods only in the most efficient plants which belong to the trust. As shown above the trust form of organization also allows a high degree of specialization of plants, of machinery, and of men. As a rule trusts can utilize their by-products more efficiently than can the independent companies. This is, however, an economy of size rather than of form of organiza-

tion and is open to any independent company which can operate on the same scale as the trust.

Another group of economies deals with certain phases of selling. By restricting competition and the number of brands it is possible to reduce expenditures for advertising, as shown above; savings can be made also in cross freights, in reduction in the number of traveling salesmen, and in certain export costs. Because trusts as a rule have factories in different parts of the country, and because many trusts or combinations have reduced the number of brands and lines of products manufactured, desirable economies are made by reducing the stocks of goods carried. It is, however, a question how many of the economies mentioned above as well as of the other economies claimed for the trust form of organization are due to monopoly and combination, and how many are due to the large scale on which the business of the trust is conducted. The student of business is interested in this question, for if the economies claimed for the trust form of organization are simply those of large scale industry, monopoly should be discouraged and even prevented by law. American economists and legislators have taken the stand that although some economies may be due to monopolistic organization, the possible evils of monopoly control are so great as to justify legislative action to prevent monopoly control. To accomplish this a number of laws have been passed by Congress in the last 40 years.

Weakness of Combinations.—Forces other than prohibitory legislation have operated to limit the use of combinations in industry. One limiting factor has been the very large financial outlay necessary to accomplish a degree of combination which is worth while. Just as soon as combination reaches beyond the stage of large scale operation and seeks monopoly control of any industry, a number of additional expenses arise. One is the necessity of the purchase of inefficient plants of corporations which must be controlled if monopoly is to be ob-

tained. It was shown above that the whiskey trust closed 68 of 80 plants taken over. There is little doubt that the expense of carrying these closed plants was of necessity deducted from the profits of monopoly. If their business is united with that of the trust, much of the good will is lost or is decreased in value. Financiers who are able to promote an effective combination receive large cash payments or large blocks of stock for their services. This is a type of expense which the ordinary large-scale industry does not have. Elimination of competition has often operated to remove the real stimulus for efficient operation of plants and for effective sales work. This results in a degree of stagnation which reduces profits. A further factor limiting the spread of trusts and combinations is the scarcity of high-grade executive ability. Many trusts have found it impossible to find men who could cope with the problems which have arisen as a result of the attempt to secure monopoly.

Trusts Today.—In a later chapter in which the relations between government and business will be discussed, some account will be given of the government's attempts to control monopoly. Let it be said at this point, however, that anti-trust legislation and dissolution of certain trusts as the result of court action brought under such laws, have combined to reduce the number of monopolies which might otherwise have existed in this country. But it is perhaps true that in certain lines of industry, a degree of monopolistic control still exists. It is perhaps true also that in the future some new forms of combination will be worked out. The attitude of our government may change towards combination in the future, for it seems to be true that the trust or the monopoly or the merger or the combination is not necessarily antagonistic to public welfare. It is only when any form of organization, engages in unfair competition, that the public interest demands some change in its methods of conducting business.

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CHAPTER XVI

SOME PRINCIPLES OF FINANCIAL POLICY

Original Financing

Capital Needs.—An examination of the financial needs of a business enterprise will disclose the fact that in the case of a manufacturing concern, for example, capital must be provided to supply land and buildings, machinery and equipment, materials and supplies, payrolls, credit extensions, and so forth. In cases where land and buildings are rented provision for meeting the rent must be made. Similarly, in the case of merchandising establishments many comparable needs call for capital outlay. Here, inventories of merchandise call for a substantial investment while equipment necessities in the form of show cases, office furniture, delivery trucks, etc., make their capital demands. Some of these business requirements such as the provision of plant, equipment, machinery, etc., are more or less permanent in their character and call for a long time investment of capital. In addition to the capital necessary to provide for the physical plant and its equipment, the new enterprise should start out with such resources as will supply a minimum working capital. The capital required for plant and equipment and the minimum working capital taken together constitute the long time capital of the enterprise and this capital should be so secured as to minimize the fixed charges of the new business.[1]

Original Financing of the Sole Proprietorship and the Partnership.—In the case of the unincorporated enterprise provision for the original long time capital investment is usually made out of the savings or the inheritance of the proprietor or

[1] Working capital, or revolving capital, is that which is invested in raw materials, partly finished and finished products, accounts receivable, cash, etc.

partners. Frequently these contributions are made by borrowing on real estate or on insurance policies. Sometimes the capital contributions of the partners or proprietors are augmented by funds borrowed from friends or relatives. In many cases the purchase of machinery or equipment on long time credit terms by deferring the date of payment or by distributing the payments over a considerable period of time, reduces by so much the immediate capital requirements of the new business. Sometimes it is possible for the new enterprise to secure advance payments on orders placed with the new firm, although such a practice may mean a substantial loss of independence or the customer may drive a hard bargain as to prices. Such advances are most common in fields where selling agents operate and dispose of the entire output of the mill which they represent. In the lumber business small saw mill operators sometimes receive advances from wholesalers who dispose of their output. Such advances are also somewhat common in the canning industry. Ordinarily, however, advances are confined to old established mills which for one reason or another are in need of such assistance.

Occasionally the unincorporated enterprise may borrow from the bank on collateral security in order to provide for the original plant investment. Such a practice cannot, however, be endorsed since bank loans are short time loans and financial difficulties may follow when an unsuccessful attempt is made to renew such loans. Investments in plant and equipment cannot be usually expected to provide the means for the prompt repayment of such loans.

It should also be noted that the securing of the original equipment on long-time credit terms is somewhat hazardous. The new business may find it dangerous to rely upon the uncertain earnings of its infancy to provide the finances to meet such payments at their maturity.

Sound financial practice dictates that the newly established enterprise start with an adequate long-time capital secured on

such terms as will minimize its interest obligations. It should not assume such interest charges or obligations for the repayment of principal as will put a serious drain upon the finances of the enterprise which is ordinarily unable in its youth to meet successfully large fixed charges.[2]

Original Financing of the Corporation—The Market for Securities.—In the case of the incorporated enterprise, the original long time capital is raised through the sale of securities. Those who organize the company constitute a market for its securities as do the friends and relatives of the organizers. People residing in the locality in which the business is to be conducted may offer a good market although lack of interest or unfamiliarity with the particular business or a lack of money for investment purposes may narrowly limit investments by local people. Prospective investors in other communities may be reached through newspaper advertising, direct mail advertising, or by salesmen employed for the purpose. In other cases securities may be sold to people from whom goods are to be purchased or to prospective customers of the new concern. Usually, a new enterprise finds it necessary to dispose of its own securities without the assistance of banking or other financial institutions.

Whether or not the sale of securities will be limited to a few buyers, or to the local community or will involve a wider market will depend upon a number of factors. The type of enterprise is important in determining the market for the securities. In the case of a small local manufacturing or mercantile enterprise, the sale of securities is ordinarily limited to a few persons. Frequently no effort will be made to sell securities to the general public, as the organizers of the new company take all the securities issued. On the other hand, in the case of a large manufacturing or mercantile venture and particularly in the case of public service enterprises such as street railways,

[2] Fixed charges are charges which do not vary with the amount of business done; for example, rent, interest, salaries of a minimum administrative staff, etc.

gas and electric companies, the large capital required necessitates sale of securities to a large number of investors.

The general business situation may also be a factor in determining the market for the securities. General prosperity may enable the enterprise to raise the requisite capital by appealing to a relatively small number of investors while during times of business uncertainty it may be necessary, because of the prevailing conservatism, to sell securities to a much larger number of people in order to raise even a modest capital.

The purpose of the promoters of the new enterprise is also a factor in determining the market for its securities. If the promoters look to the new enterprise to furnish them with a field for the more or less permanent investment of their capital and energies, they are likely to absorb a substantial share of the securities. Sometimes the promoters do not anticipate any permanent connection with the enterprise and put nothing but their discovery of the business opportunity and the labor of its promotion into the new enterprise. Under such conditions they may receive their payment in the securities of the new enterprise and the actual capital required must be secured by appealing to a wider market. In some cases, it must be admitted, securities are offered for sale in distant markets because the business venture will not bear close scrutiny.

Securities Issued—Bonds and Short-Term Notes.—The average "brand new" industrial or commercial company must raise its initial long-time capital through the sale of stock. It cannot and should not rely upon the sale of bonds or short-term notes, since the conservatism of bond and note investors would prevent their purchase of such securities. The uncertainties attending new ventures of the type described and the uncertainty of earnings from which interest and principal payments are to be paid would usually prevent investors from absorbing such securities. Even if it were possible for the ordinary new venture to market bonds, or notes, it would be

bad policy for them to do so. Bonds and notes would involve interest payments and provision for the repayment of principal at a time when earnings are uncertain and, as frequently happens for a period following the establishment of the enterprise, non existent. The only sound basis for the issue of bonds and notes is demonstrated earning power.

In the case of a few industrial enterprises, where promotion follows a long period of development and experiment by independent companies, a new company may be launched, by powerful interests with such promise of substantial earnings as to permit and warrant the issue of bonds. This situation may arise, for example, where a new company is organized to market the output of an old and well-established manufacturing enterprise, or where a new company is organized to take over the ownership and control of a number of existent companies which have already demonstrated their earning power.

In the case of public utilities and railroads a considerable part of the original capital is usually raised by means of bond sales. Here, the monopolistic or quasi-monopolistic position of the issuing company and the absolute dependence of the community upon the services supplied combine to produce a reasonable expectation of adequate income. As a result such bond issues may find a ready market and the income expectations of the company may warrant the assumption of substantial fixed charges in the form of interest and principal repayments. In rare cases, industries that start with long time contracts for their output which promise substantial earnings may issue bonds to secure original capital. But even here, the assumption of such an obligation may put the new concern in jeopardy. Generally speaking, the issue of bonds or short term notes to raise capital for new industrial and commercial ventures is unsound financial practice. Fortunately, the frequent absence of a market constitutes a barrier to their issue and protects both the investing public and the new enterprise.

Reason for the Use of Preferred Stock.—A considerable part of the original long time or permanent capital of a corporation may be secured through the sale of preferred stock. In fact, in the case of many industrials a major part of the original capital has been raised through the sale of preferred stock, as the common stock in many cases was given as a bonus to preferred stock purchasers or as a compensation to the promoters. A number of considerations have induced promoters to raise initial capital through the sale of preferred stock rather than to rely upon the sale of common stock. By selling preferred stock the promoters are enabled to raise capital while retaining for themselves control of the corporation through their common stock ownership for, as we have seen, the control of the corporation normally lies in the hands of the common stockholders. In some cases, while initial capital is secured through the sale of both preferred and common stock, nevertheless the issues of common stock are so limited and so distributed as to enable the promoters to retain control.

It should be understood that it is altogether possible to secure original capital through the issue and sale of common stock only and still retain control of the company by the promoters as they can retain for themselves either through purchase or gift a majority of the total common stock issued. However, the greater ease of financing the corporation and its close control through combined issues of both common and preferred stock has encouraged corporations to secure a large share of their initial capital through the sale of preferred stock. Another factor which has encouraged original financing through preferred stock sales lies in the existence of a market ready to absorb such issues.

Disadvantages in the Use of Preferred Stock.—Although preferred stock issues may represent an easy and attractive means of original financing they are nevertheless not without their elements of menace as far as the common stockholders are

concerned. In some cases preferred stocks carry with them the right to supersede the common stockholders in the management of the company whenever the unpaid accumulated dividends on the preferred stock reach a certain amount. In other cases, the subsequent redemption of preferred stocks is made obligatory and the company is required to build up a sinking fund for this purpose. Such a provision by requiring a setting aside of earnings for the redemption of preferred stocks, may jeopardize the earnings of the common stockholders. Whenever it is necessary to pass the dividends on cumulative preferred stock for a number of years, the large amount due preferred stockholders before the common stockholders can receive any dividends may be distinctly discouraging to the latter.

In spite, however, of the risk to the common stockholder in preferred stock issues, the sale of such stock has been a substantial source of original capital in the case of industrial enterprises. Public utilities, because of the ready sale for their bond issues have relied much more largely upon bond sales than upon preferred stock sales to provide initial capital.

Other Methods of Original Finance.—Although a part of the common stock is often absorbed by the promoters as a compensation for services the remainder may be sold and thereby increase the initial capital of the enterprise. In still other cases, there may be no free distribution of common stock and every share issued may represent an addition of so much to the initial capital. Sole reliance may be placed upon common stock sales to provide all the original capital while in other cases substantial dependence for capital provision may rest upon the issue and sale of bonds or of preferred stock.

The corporation like the sole proprietorship and the partnership may secure a part of its initial capital by such practices as borrowing from commercial banks, purchasing machinery and equipment on long time credit terms, securing advance

payments from customers on orders placed, etc. Such practices in the case of the corporation, are subject to the same objections as in the case of the proprietorship and the partnership.

Financing the "Going" Concern

The Need for Additional Permanent Capital.—After the business enterprise has been launched and its capital needs provided for, subsequent developments may indicate that its permanent capital is inadequate to meet its needs. For example, the concern may wish to expand the business along old lines as when a retail dry goods concern adds to its equipment and stocks of merchandise or when a manufacturer constructs new buildings, purchases additional machinery, and equipment. The expansion may be along new lines as when a jobbing house develops a chain of retail stores or when a manufacturer establishes a system of wholesale branches for the distribution of his products directly to the retail trade. It sometimes happens that the necessity for increased permanent capital may have its origin in the purchase of other concerns or rapid expansion of a business may result in the permanent working capital proving inadequate.

The Need for Refinancing.—In certain cases the conditions leading to new financing by established concerns are not a result of the inadequacy of the permanent capital but are the result of circumstances described below. In the case of a partnership for example, the withdrawal of a partner may result in the addition of a new partner to maintain the permanent capital of the enterprise. The changing of a sole proprietorship or of a partnership to the corporate form calls for new financing through the issue of corporate securities. However, such security issues may or may not result in any addition to the permanent capital of the enterprise. The substitution of one mortgage obligation for another or the mortgaging of the

assets of the concern to secure capital with which to meet other obligations constitute new financing which may not add to the permanent capital of the enterprise.

In the case of the corporation, new financing may be the result of a desire to change the type or term of already existing obligations. For example, a corporation may have issued short-term notes and at maturity not having the money for their redemption may sell 20-year bonds and use the proceeds of the bond sales to redeem the notes. A corporation whose bonds are about to mature may sell a new issue of bonds to secure the funds for the redemption of the original issue. Such new financing does not necessarily add to the permanent capital of the enterprise.

Public service enterprises such as street railways, gas, and water companies frequently refinance because of the necessity of securing funds to redeem maturing issues of either notes or bonds. Such enterprises are often forced to substitute one bond issue for another inasmuch as they have secured much of their original permanent capital through the sale of bonds and since they are not permitted by public service commissions to charge such rates for their services as will permit them to redeem their outstanding obligations out of earnings. Both from the standpoint of public interest and from that of the public utilities themselves, the substitution of one bond issue for another is not necessarily unsound since there usually exists such an assurance of earnings as will protect the interests of both the investing public and the stockholders of the enterprise.

In the case of industrial enterprises, however, the substitution of one bond issue for another is open to objection, in that as a result of competition, future earnings are more or less uncertain and as a result it is probably not good financial practice to regard their loans as of a permanent character. Many industrials, however, follow the practice of refunding their obligations through the substitution of a new bond issue for an older maturing issue.

Methods of Adding to Permanent Capital

Reinvestment of Earnings.—Of the several methods of adding to the permanent capital of a business enterprise, additions through the reinvestment of earnings is one of the safest if not the safest of all methods. Such a method of adding to capital works a temporary hardship upon the original owner or owners since the earnings which would have gone to the owners are used to increase the capital of the concern. However, the reinvestment of earnings, if wisely made, increases by so much the value and earning power of the enterprise. Increasing the capital through the reinvestment of earnings is regarded as a particularly safe method for adding to permanent capital inasmuch as such a method usually means expansion at a moderate rate and prevents such a rapid expansion in size and activities as is likely to menace the success and stability of the enterprise. Moreover, when expansion or extension comes as a result of the reinvestment of earnings, it is based on a foundation of demonstrated earning capacity. In other words expansion waits upon the demonstration of the ability of the management to operate profitably with a smaller permanent capital.

Sometimes, however, the provision of additional capital solely through the reinvestment of earnings would be detrimental to the best interests of the concern. It may happen that the original capital may prove inadequate for the profitable conduct of the business inasmuch as it will not permit of the purchase of necessary machinery, equipment, etc. In other cases waiting for expansion upon the slow accumulation of earnings might enable a competitor to intrench himself in a market so strongly as to prevent later effective competition with him.

Methods Peculiar to the Proprietorship and Partnership.—Unincorporated enterprises may provide for additions to permanent capital through further investments of capital by the

original owner or partners. Additional capital may be gained in the case of the partnership by taking in new partners while the transfer of a sole proprietorship to the partnership form may furnish needed additions to capital. Unincorporated concerns may increase their capital by borrowing, in which case sound financial practice would dictate that steps be taken to provide for the repayment of the loan.

Methods Peculiar to the Corporation.—Additions to the permanent capital of incorporated enterprises may also be secured through the issue and sale of additional securities. Securities so issued and sold are similar in form to those issued at the time of organization to provide the original permanent capital and consist of bonds, stocks, preferred and common, and short-term notes.

Whether or not a corporation wishing to add to its permanent capital will issue bonds or stocks or short-term notes will depend upon a number of considerations, among which the state of the market for securities is a factor. There are times when the investing public prefers bonds rather than stocks and other times when the market for stocks makes it desirable to raise capital through stock issue and sale.

The Sale of Bonds.—Bond issues are frequently relied upon to increase the permanent capital of public utilities and such issues ordinarily find an acceptable market. The provision of additions to capital through bond issues in the case of public utilities is financially sound for the same reasons as obtain in the case of the provision of the original permanent capital of such enterprises.

In the case of industrial enterprises while additions to permanent capital may be secured through the sale of bonds nevertheless such a method of raising capital is not without the element of risk as a result of the somewhat uncertain earnings of industrials as compared with public utility enter-

prises. In any event conservative financing would dictate the necessity of providing for the redemption of the bonds at maturity since the industrial enterprise should not rely upon refunding. On the whole, if an industrial enterprise has demonstrated its earning capacity, the securing of additional permanent capital through the sale of its bonds is less hazardous than reliance upon the sale of bonds to provide the original permanent capital of the enterprise.

The Sale of Stock.—Additional permanent capital may be secured through the sale of common stock and, if such issues are purchased by the original stockholders, the control of the corporation is not affected by such sales. On the other hand sales of common stock, if in sufficient quantity and if purchased by individuals other than the original stockholders, may result in the control of the corporation passing to the new stockholders. Another reason why the original stockholders may be unwilling to secure new capital through issues of common stock lies in the fact that such issues involve the original stockholders sharing the profits with outsiders. This can result, however, only when the new issue of common stock is purchased by outsiders rather than by the original common stockholders.

The issue and sale of preferred stock to provide additions to the original permanent capital presents advantages and disadvantages which have been described in connection with the discussion of the raising of the original permanent capital. It is perhaps sufficient to add that the proceeds from the sale of preferred stock may, if properly applied increase the profits of common stockholders. On the other hand, as we have seen the issue of preferred stock by establishing a prior claim upon earnings, renders somewhat precarious the profits of common stockholders and may result in the passing of dividends on the common stock for a number of years as a result of the accumulation of unpaid dividends upon the preferred stock.

The Sale of Short-Term Notes.—The issue and sale of short-term notes offers another method of adding to permanent capital. Such note issues may be used as substitutes for long time bonds when the prevailing interest rates are high with a promise of some reduction in rates in the near future. For example, if 6 per cent is the current rate of interest when a concern offers its bonds it will probably have to pay this rate. If it sells 20-year bonds, it obligates itself to pay 6 per cent interest for the entire period of 20 years. Under such circumstances if the concern thinks that interest rates will fall within a 5-year period to 5 per cent, it may issue 5-year notes bearing 6 per cent interest and at the end of the period issue 20-year bonds bearing 5 per cent interest which it may be able to sell at approximately par value because of the decline in the interest rate to 5 per cent. The proceeds of the sale of the bonds may then be used to redeem the notes. Through the issue of the notes the concern is able to save 1 per cent interest per year for a considerable number of years. Short-term notes may be used also to secure additions to permanent capital when it is the intention of the issuing concern to redeem the notes out of earnings. Under such circumstances it is frequently the practice as in the case of many bond issues to provide a sinking fund for the repayment of the obligations at their maturity.

Temporary Additions to Capital.—In addition to the permanent capital needs of a business, many situations arise which call for temporary additions to this capital. For example, it is rather unusual for a concern, particularly a mercantile concern, to distribute its purchases of materials or merchandise evenly over the 12 months of the year. The seasons of heavy purchase of materials or merchandise do not necessarily coincide with the seasons of heavy sale. As a result, purchasers are commonly called upon to pay for goods considerably in advance of the sale of the goods. Such a situation creates a

demand for a temporary increase in the working capital of the enterprise which can be met most economically by borrowing from a commercial bank such sums as are necessary to pay for the supplies or stocks of merchandise and the repayment of such loans out of the proceeds of the sale of the product of the factory or the merchandise of the store. Another method of adding temporarily to working capital takes the form of the sale of accounts receivable.

Although the necessary working capital of an enterprise may be lessened by an extension of credit by the person from whom goods are purchased, nevertheless the granting of cash discounts by sellers makes borrowing from the bank profitable in order that cash payments can be made. Let us assume, for example, that a business buys merchandise on the following terms, 2/10, net 30, which means that if the purchaser pays for the goods within 10 days, he will receive a 2 per cent discount. If he waits until the expiration of the 30 days, he must pay the full amount of the bill. In other words, by deferring payment for 20 days beyond the 10-day period he sacrifices 2 per cent on the face of the bill. Two per cent for 20 days is equivalent to 36 per cent per annum. Under such circumstances it is obvious that it will pay to borrow from the bank and take advantage of the cash discount.

In certain cases exceptionally favorable opportunities to purchase goods may present themselves at a time when the permanent capital of the enterprise is inadequate to meet the payments required. In such cases, it may be distinctly profitable to borrow from a bank in order to take advantage of such opportunities. It frequently happens that business men fail to borrow from banks in spite of the profitableness of such borrowing either because they are not aware of the profitable use of a bank or because they are reluctant to assume financial obligations.

Frequently a business enterprise must have recourse to the bank to provide funds for the financing of an advertising cam-

paign or to finance salesmen. Many circumstances in connection with the production and distribution of goods call for temporary additions to the working capital of the enterprise and result in the negotiation of bank loans. For example, during a season of especially heavy production or sale, payrolls may call for such heavy payments as to overtax the working capital of the enterprise. Under such circumstances it is sound policy to borrow from the bank, in order to meet such obligations.

Capital Needs Caused by Credit Extension.—Circumstances surrounding the sale of goods frequently create situations which result in the permanent capital of the enterprise proving temporarily inadequate for its needs. Business institutions commonly extend credit to their customers. While their permanent working capital may be adequate for a minimum of such extensions, nevertheless seasons of heavy sale and consequent increases in credit extensions make their permanent capital inadequate and calls for temporary additions to capital by borrowing from the banks. The expectation of later payment of such accounts warrants such borrowing.

Sales to customers on the instalment plan make heavy demands upon working capital and demands which at times may force the enterprise to turn to the commercial bank for loans. In some cases, notably in the sale of automobiles on the instalment plan, finance companies furnish the capital necessary to such transactions by paying the automobile dealer at once and collecting from the purchaser on the instalment plan.

Conclusion.—Many other conditions might be mentioned which may result in the permanent capital proving inadequate to meet the needs of the enterprise and yet the temporary character of such conditions may not warrant the maintenance of a permanent capital large enough to meet all such contingencies since such a practice might result in loss through much capital being idle a considerable portion of the time. Furthermore

the provision of such an excessive permanent capital in addition to proving a source of loss through idleness might, through the necessities of its acquisition, put a severe strain upon the enterprise and would certainly reduce the profitability of the business. Any enterprise is warranted in borrowing from the bank to supplement its permanent capital when circumstances which give rise to the loan are temporary in character and when there is a reasonable assurance that the loan can be repaid at maturity. An enterprise is not justified in relying upon bank loans to provide all the capital necessary to the meeting of its pay rolls, paying for raw materials or for merchandise and in general meeting the current expenses of the business. Every business should have a permanent capital adequate to provide the necessary plant and in addition to provide working capital sufficient to meet minimum pay rolls, to carry minimum stocks of materials, supplies and merchandise, to provide for at least minimum credit extensions, etc. Reliance upon current loans to provide for capital demands such as these is hazardous since fluctuations in business activity, a falling off in sales, a slowing up of collections, etc., may make it impossible for the business to repay the loans at maturity.

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CHAPTER XVII

INSTITUTIONS AIDING IN FINANCING A BUSINESS

Preceding chapters have shown something of the reasons why business houses need capital and how such capital is secured through the issue and sale of common and preferred stock by corporations. It was also stated that partnerships and proprietorships are limited to some extent in the amount of capital which they have for use by the fact that they cannot call upon a considerable number of people for investment in their business as can the corporation. It has also been shown that corporations can borrow funds through the sale of several different kinds of bonds. But it was also pointed out that all three types of business organization are compelled to borrow varying amounts of money for varying lengths of time, and to be financed in other ways than by borrowing, or by capital investment. A description of the form and services of the principal institutions which aid in financing a business forms the material for the present chapter.

The Commercial Bank.—Most important of these institutions is the commercial bank. Such banks can be divided into three classes on the basis of the authority under which they operate. National banks receive their charter from the federal government, state banks from the state government, and private banks operate under the general corporation laws of the state rather than under the banking laws. In most states, however, private banks must conduct their business subject to certain regulations laid down for the government of regularly chartered state banks. National banks are organized under the authority of a federal law and operate under the direction of

the Comptroller of the Currency, an official of the Treasury Department. Applications for a charter for a proposed new national bank are made to this official who passes on the justification for the establishment of a new national bank in the community designated, and sees to it that the definite provisions covering the chartering of national banks are carried out. The Comptroller of the Currency supervises national banks to a limited extent. National bank examiners work under his direction in their inspection of the books and management of the national banks. He calls for financial reports of the condition of the banks from time to time. The banks do not know in advance when these reports will be called for and hence must have their affairs ready for making a report at any time. Only national banks have the right to issue currency. In general national banks must have a larger capital investment than state banks. For this reason they are not found in many small towns which are, however, large enough to offer a profitable field for the operation of state banks. Aside from these general differences there are few points of distinction between the two kinds of banks, national and state. One is just as secure as the other. Although one has the word "national" as a part of its name, there is no reason to suppose that it is stronger than a state bank which does not have such a title, for the national government has no definite relationship to national banks, except in its general supervision. State banks are just as definitely and just as strictly supervised as are national banks and in general are just as secure.

State and Private Banks.—State banks are organized under the laws of the different states. These laws vary somewhat in detail but in general the plan of organization and supervision, and the powers and duties of state banks do not vary greatly from state to state. There is little if any reason to believe that the state banks of any one state are stronger than the state banks of any other state. Aside from the issue of

currency, state banks have practically the same powers as national banks, and do practically the same kind of business. State bank examiners work under the direction of the department of the state government which supervises state banks and requires periodical reports to be made to this department.

Private banks constitute the third class of commercial banks. When banking operations were less common than today, and especially in small towns, there was not enough banking business to justify the incorporation of a state bank, for a corporation organized as a bank cannot carry on other types of business. Hence prominent and trustworthy merchants began to accept deposits. That is, they accepted funds placed with them for safe keeping and even paid interest on such loans from time to time. A sort of checking system was developed to make it convenient for the depositors to withdraw their loans when desired. Sometimes local capitalists carry on similar banking functions as a side line for their other business operations. In either case the banking business was subordinate to the principal business of the business man rendering the service. But as the demand for banking service increased, the service rendered by these private bankers increased in importance and it was logical for them to make banking their principal business. Gradually this was done, a banking office was opened, and the private bank took over the duties and rendered the same services as do state and national banks.

This bit of history accounts for the existence of a considerable number of private banks today. Although relatively not important, they are important in particular instances. For example, they have been organized to render service to foreign residents who are not familiar with American banking methods and distrust the regular incorporated banks. They prefer to intrust their funds to some one of their own nationality who accepts deposits, honors checks, makes loans and by connection with some commercial bank sells foreign exchange to his customers. In a few cases private banks are among the

leading banks of a community and render complete banking service. Many such banks have been opened by persons who proved to be dishonest and in some cases the private bankers have disappeared with funds intrusted to them. For this reason the laws of most of the states now require private banks to be inspected by regular state banking department inspectors. Reports are required and in general as a return for the right to use the name "bank" private banks are required to follow the rules of good practice laid down by the state banking department. When these rules are followed greater safety is promised to the depositors, but some of the competitive advantages of the private banker are lost. Hence the tendency is for such banks to become regular state banks, and to use the word "state" in the official name of the bank.

Services of Commercial Banks

Place for Deposit of Funds.—The commercial bank is perhaps the oldest form of banking business. Students of banking history state that during the Middle Ages it was customary for goldsmiths to accommodate their customers and friends by accepting funds for safe keeping. They were compelled to provide means of protection for their stock of gold. This protection they could extend to currency entrusted to them. The next step was the discovery by these goldsmiths that they could loan a certain percentage of these funds and for them receive a definite rate of interest. Hence they very early developed the two main functions of modern banks, the services of deposit and of loan. Modern business men and private citizens as well, still desire a place where funds not in use may be safely kept. Hence modern banks accept deposits, hold them until they are called for, and then pay them out as ordered by the check signed by the depositor. While some bank loans take the form of cash the majority of loans made to customers by the banks are in the form of a credit entry in the

account of the person to whom the loan is made. The borrower then finds it easy to use such deposits by checking them out. This is a very important method of creating bank deposits.

Making a bank deposit is a comparatively simple matter, yet many people show ignorance of the simple rules involved. One should always take his pass-book to the bank when a deposit is made, for entry in it serves as a receipt from the bank to the depositor. In the majority of cases this receipt is not needed but it protects the depositor against mistakes of the bookkeeping department of the bank. If for any reason the depositor does not have his pass-book he should receive a duplicate deposit ticket which acts as a receipt. One copy of the deposit slip or ticket should always be filled out by the depositor before he presents his funds for deposit at the teller's window. If he does not have his pass-book he should fill out a duplicate slip to be signed as a receipt for the deposit. Checks should always be indorsed before they are presented at the window, but not before they are brought to the bank, for if lost after they have been indorsed they are negotiable.

Many inexperienced business men do not understand the relation which exists between a bank and its depositors. When a bank accepts a deposit from a customer it assumes a responsibility and should know something about him. Hence it is common practice for the officer who is in charge of new accounts to ask certain questions of a new depositor. These relate to the nature of his business, its present status, the size of his average balance, his practice in making use of the loan service of the bank, and whether he expects to ask for a loan in the near future. Many customers tend to resent these questions as relating to private business and not concerning the bank. The questions should be answered, however, freely and honestly for such response may lay the foundation for future pleasant and profitable relations between the bank and the customer.

When it is proposed to open an account with a large city bank it is well to have the customer introduced to the banker by some mutual acquaintance. At this time the questions above suggested will be asked, signature cards filled out, a pass-book and a check book given to the customer. If cash has been deposited, checks can be drawn at once. If drafts or checks are deposited some banks will require the customer to await the collection of this paper by the bank before checks will be honored. When the account is opened some banks—especially those in the larger cities—inform the customer that an average balance, sometimes as low as $50, sometimes much higher, must be maintained. If the average balance for any one month falls below this amount a service charge of 50 cents or $1 is charged to the customer. This charge is based on the fact that if the average balance is small the cost of rendering checking service to the customer is greater than the profits made by the bank from the use of funds deposited by the customer. Bookkeeping costs are considerable. Supplies, such as check books and blank checks cost money. Hence the bank is justified in making the small service charge.

Check Service of Commercial Banks.—The second principal service of commercial banks to business men is that they make possible the use of the check system of handling funds. A check is an order drawn by an individual or corporation upon a bank in which funds have been deposited directing the bank to pay the designated amount to a named person or corporation or to their order. The very large use of checks suggests the fact that there must be certain definite advantages in their use. Perhaps the greatest single advantage is the convenience and safety of checks. Carrying of currency, even paper money, is not convenient for several reasons. It is heavy and bulky if carried in large amounts, and in general, if a person is to be able to pay all bills and meet a varied list of expenses, he will need to carry larger sums of money than is

either convenient or safe. Checks can be written for the exact sums involved and only small sums necessary to meet incidental expenses need be carried. Payment by check also gives a receipt for the payment of the bill. A second great advantage of the use of checks is the safety of the method. Risk is always present when actual currency is carried by the individual or is held in the cash drawer or register or even in the safe of a business house. The person who receives cash payment assumes risk of loss of the cash so received. But when paid by a check there is little risk of loss or robbery for the check is not negotiable until indorsed by the person to whom it is made out. A third reason for the wide use of checks is the ease with which funds may be transferred by their use. If a person has a bill to pay at a distant point a check can be sent to him and by him deposited in his bank to the credit of his account. For these and other reasons modern business makes wide use of the check. Practically every progressive business house pays all bills by checks and deposits funds received, rather than paying bills in cash from the cash receipts of the business as was the earlier practice. Professional men also make wide use of checks as do artisans and even laborers. Farmers in many sections have been slow to realize the advantages of the use of checks but in most states the majority of farmers now pay most of their bills by check.

Certain standard practices should be observed in the use of checks. Care should be used in the amount written in the body of the check, for if that amount does not agree with the amount in figures, the written amount governs. Care should be observed to always use the same signature. Checks are now normally written on paper which shows alterations when they are attempted. This paper is a protection for the user of checks. Careful business people show their training by always indorsing checks on the left end. This is a trivial matter, perhaps, but it is based on convenience in handling the checks by

the bank and is one of the little things which show familiarity with business practice.

Careful depositors will be sure to know that before they issue a check there are sufficient funds in the bank to cover it. Up to a few years ago banks—especially in the smaller cities—were rather careless in honoring checks even though an overdraft was thereby created. This overdraft was considered as a form of loan or as an accommodation, and was justified as a matter of service to customers whose credit was good. But banking rules, both state and national, now prohibit such accommodation and the banks have no option but to return checks if the maker does not have sufficient funds on hand to pay them. If funds must be had, the customer should go to his bank and borrow the necessary amount rather than to ask the favor of an overdraft from his bank.

Kinds of Checks.—By far the most common kinds of checks are personal checks drawn by either an individual or a business house. Their characteristics and use have been described above. A special kind of personal check is the certified check. If a person wishes to send a check to some business house which does not know him and he wishes them to be absolutely safe in accepting the check, or if he wishes to deposit his check for security for certain purposes, as for example, evidence that he will perform the duties called for in a contract awarded him for the erection of a building or the construction of a piece of road, a certified check is used. The individual writes his check as usual, takes it to his bank and an official of the bank certifies that the maker has sufficient funds in the bank to meet the check. The bank at once deducts the amount of the certified check from the individual's balance, or makes a note in the ledger that his balance cannot go below the amount called for by the certified check in order that there may be assurance that the amount will be in the bank when the check is actually presented for payment.

A second group of checks are called bankers' checks or bank drafts. Banks, like individuals, draw checks on funds which they have on deposit with other banks. Assume that a merchant has a bill to pay in Chicago, and for some reason does not care to send his personal check in payment. He can go to his bank and ask for a bank draft for the amount necessary. The bank then draws a check or draft on funds which it has deposited with some Chicago bank, or bank in some other large city. The customer pays the bank for this draft, either by cash or by a check drawn on his account in the bank issuing the check, and sends it to his Chicago creditor who presents the draft for collection. Such drafts are more generally acceptable than personal checks for they are signed by a bank rather than an individual. Cashiers' checks are used for the same purpose as drafts, but instead of being drawn against funds deposited in a bank in some other city, they are drawn against a fund in the issuing bank which has been deposited by the bank itself to the credit of the cashier for such use. Because they are signed by the cashier of a bank, cashier checks are more generally acceptable than are personal checks of an individual whose financial standing is unknown. Cashiers' checks are coming into general use for they obviate the necessity of tieing up unproductive funds in a distant bank in order to be able to sell drafts.

A third group of checks are those known as travelers' checks. The American Bankers Association has taken the lead in advocating their use. When a person is traveling, he usually finds it difficult to cash a check in a city where he is not known. But by purchasing travelers' checks, which are really the checks of the issuing bank, he can cash them at any place. They are the obligation of a bank, and hence are generally acceptable. When the individual buys them from his home bank, or any other bank, he signs them in one place. When he cashes such checks he again signs them. Identification is thus made by the agreement of the signature and the checks are

accepted by any bank, hotel or even railroad company. Travelers' checks are issued in convenient denominations and have proved to be of very real service, not only to tourists but to business men who are away from home on business trips.

The American Express Company issues similar checks. Many banks in sections which have a large student population now issue similar checks for use of students. In general, student accounts are not large enough to be profitable to a bank. They constitute a definite expense if regular checking service is given. But by use of checks like travelers' checks, the expense of opening an account, carrying on bookkeeping operations, providing a check book, etc., is eliminated. The student simply deposits checks or cash and receives a book of travelers' checks, or similar checks sometimes known as "pre-certified" checks in return. There is little risk in carrying such books of checks for they must be indorsed before they are good. They are in convenient denominations and can be cashed under conditions where an ordinary check from an unknown party would not be accepted.

Postal money orders are a form of check. They are drawn by the issuing postmaster against a general fund kept by the post office department for paying such money orders. Postmasters receive cash from the purchaser of the money order and forward this to the post office department. Any postmaster or bank will cash the postal money order. When cashed they are forwarded by the cashing post-office to Washington for charge against the general fund, and for credit to the accounts of the postmaster who has cashed the order.

Collection and Clearing of Checks.—The wide use of checks has made it necessary for the banks to develop a rather complex system of clearing checks, *i.e.*, of getting them back to the bank on which they are drawn when they have been cashed by some other bank. One of the important services of a commercial bank is in cashing checks drawn on various

banks but presented to it by its customers. Almost without exception it is now possible for a business man to cash any check drawn on any bank anywhere at his bank, and to receive this service absolutely free. Checks cashed by one bank but drawn on another bank in the same city are sent daily to the clearing house which is an institution organized to assist in clearing checks between local banks. At an appointed hour a messenger or representative of each bank which belongs to the clearing house presents to it all checks presented to it in the last 24 hours which are drawn on other banks in the same city, or on country banks which are correspondents of any bank which belongs to the clearing house. Each bank receives credit on the books of the clearing house for all checks deposited by it. All checks received are then sorted and each bank is charged with the total of all checks drawn against it which have been presented by other banks. Thus each day a bank may owe a certain amount to the clearing house or may have a certain amount coming to it from the clearing house, depending on the relative size of the amount of the checks drawn against it and charged to it by the clearing house. The clearing house managers then issue checks to all banks having a balance due them, the checks being drawn on banks which owe the clearing house.

Checks which have been cashed but are drawn on out of town banks are cleared by the cashing bank in several different ways. As just indicated they may be sent to the local clearing house just as if they were its own checks. The clearing house then sends them to the bank on which they are drawn. This system can only be used for collection of checks drawn on banks in the immediate trade and banking territory of the clearing house city. Checks drawn on more distant banks are usually sent to a correspondent bank in some larger city which sends them on to the bank on which they are drawn either directly or through the clearing house in that city. This plan of collection is based on the correspondent bank system. Under

this system each bank has a deposit account with certain banks in the principal larger cities of its territory. This account is used in connection with the sale of bank drafts as indicated above, and for the collection of checks. The country bank sends checks for collection to its city correspondent and receives credit for them. The country bank is charged for all checks drawn on it and cashed by the city bank. If the accounts so established do not balance—and they rarely do—a draft is drawn on the debtor bank by the bank which has the balance in its favor. There is a growing tendency for banks to use the Federal Reserve System rather than correspondent banks for collection of checks drawn on out-of-town banks, for the Federal Reserve Banks are in a particularly favorable position for collecting such checks. Although only national banks and a few state banks belong to the reserve system, the influence of these member banks is so great that most competing banks not members of the system are forced to collect checks for their customers without charge. In a few remote sections and in a few of the larger cities, banks make a charge for collection of out-of-town checks, but the practice is not general.

The Loan Service of Commercial Banks.—One of the principal services of commercial banks to business is in the opportunity which they afford for making short-time loans. In a preceding chapter [1] it has been shown that business enterprises often need additional funds, for such short periods as 30, 60 or 90 days. Short-time notes cannot be sold through note brokers for a period as short as this and it is of course out of the question to secure funds for such a short period by the sale of either bonds or stock. Hence, the willingness and in fact the desire of commercial banks to make loans on proper security is a fact of considerable importance to the majority of business men. Just what is considered to be proper security varies with conditions and with individual borrowers.

[1] See Chapter XVI.

Types of Securities Used as Collateral.—Perhaps the most generally acceptable security for a loan is collateral. By this term is meant some form of property which is deposited with the bank as assurance that the loan will be repaid. If the note is not paid when it becomes due the bank has a right to sell the property which has been pledged and from the proceeds pay off the note and accumulated interest, and remit the balance, if any, to the maker of the note and the owner of the pledged property. Common forms of property used for collateral security are bonds, real estate, stocks, promissory notes, warehouse certificates, order bills of lading, and merchandise. In fact any form of tangible personal property may be pledged if the bank believes that it is readily convertible into a sum as great at least as the amount borrowed. Thirty-five to 45 per cent of loans made by national banks are secured by some form of collateral.[2]

The student may wonder why the borrower does not sell the collateral posted as security instead of making the loan. There are several reasons why he may prefer not to sell. One is that the property posted, be it a bond, stock certificate, warehouse receipt, or other collateral may be low in price at the time the loan is desired and it may therefore be more economical to borrow money at the bank and retain possession of the property until a later period when it will sell for more money. Another reason is that the amount desired is often less than the value of the security posted. For example, a small merchant may need but $500 but has a $1,000 bond which he can use as security for the amount borrowed. Other similar reasons account for the wide use of collateral security as a basis for loans.

The second great class of security for bank loans is composed of various financial statements, primarily the statement of assets and liabilities and the profit and loss statement for a recent period of the business applying for the loan. These

[2] Fitzgerald, J. A., "Making Use of a Bank," p. 127.

statements, when read by a trained analyst show the condition of the borrower's business. The excess of assets over liabilities is shown as well as the obligations which the business will need to meet during the life of the proposed loan. The profit and loss statement shows the condition of the business as regards its ability to make profits or rather its past record in this respect. When supported by signed orders for the future, or by other evidences of the sound condition of the business, the banker can judge of the probable ability of the business to meet this loan when it is due as well as its ability to carry on a normal line of activity which will bring to it financial success. The borrower also shows the banker just how the funds which are asked for will be used in the business. The banker can then judge as to whether this is a wise use and one which will make for the success of the business. For example, a banker might approve a loan made for the purpose of carrying on an extensive advertising campaign while he would reject an application for a loan the proceeds of which were to be used for unwise purchase of raw materials, or for buying the patent rights of some new article, the manufacture of which it was proposed to take over, but whose real merit had not as yet been demonstrated. From these facts, the banker can reach a decision.

The third type of security for bank loans is the personal integrity of the borrower. Perhaps a majority of loans of commercial banks are so made. When a business man has established a reputation in the community for business ability and his business is known to be in a healthy condition, he can ordinarily borrow reasonable amounts without posting collateral security or without even submitting a financial statement to the bank. This statement must be qualified, however, by the reservation that a loan would ordinarily not be made unless the applicant had a good reputation for meeting his notes as they became due. People vary in the importance they attach to their financial and other obligations. Some people are not

worried by over-due notes and bills unless suit is threatened or some other inconvenient action is probable. Banks wish to have their promissory notes met promptly and hence attach considerable importance to the business integrity of the borrower. If he is not known personally to the officer of the bank whose duty it is to pass on the loan, references are required. However, it is safe to say that not many loans are made without some form of security unless the borrower and the condition of his business are known to the bank officials.

Duration of Bank Loans.—Bank loans are short-time loans as a rule. Other methods of financing are used by business houses when a period longer than 3 or perhaps 6 months in some cases is involved. A loan is rarely made for less than 30 days but many are made for that length of time. Sixty and 90 days are common periods for bank loans. Usually bank loans are made for definite stated periods and are payable only at the expiration of that period. If the need for the loan remains and the condition of the borrower's business still justifies it the note may usually be renewed. Call loans, however, constitute a class of bank loans which are not made for a definite period but are made with the understanding that they may be recalled at any time at the option of the lender. Usually some notice of the intention to call the loan is required but this may be as little as one day or less. Call loans are little used in ordinary business transactions for a business man needs to be assured that he will have the use of borrowed funds for a stated time. Their use is largely confined to stock and produce exchange transactions where they are used for financing purchases of stock. Many stock purchases are made with a definite intention of holding the stock but a few days and hence call loans are adaptable for this purpose. Call loans are practically always secured by marketable collateral.

Bank Interest.—The rate of interest charged by banks on their loans varies with the nature of the risk. That is, the

grade of credit possessed by the borrower, and with the relative supply of funds available for loans compared with the demands for such loans. In country towns and in larger cities for ordinary business loans, the interest rate rarely goes below 6 per cent or above 8 per cent. In times of financial stringency the rate may climb very high for short-time loans. The rate on call loans varies greatly depending on the state of the so-called money market. It may be as low as 1½ per cent or go to 25 or 30 per cent. Banks figure interest on the basis of 360 days to the year.

Bank loans are usually discounted. That is, the bank deducts the interest on the loan from the principal and pays the resulting balance to the borrower. For example, if a loan of $1,000 is made by a bank for 3 months at 8 per cent, the interest, in this case $20, would be deducted from the principal and the borrower would receive not $1,000 but only $980. Banks are almost unanimous in their use of this plan, for by it they increase the rate of interest which they actually receive on their loans. In the case mentioned the bank receives $20 for the use of $980 for 3 months rather than for the use of $1,000. The interest rate is therefore slightly over 8 per cent. The bank is also enabled to collect its interest in advance and thus avoid the bother of collecting it when the note becomes due.

Form of the Loan.—Bank loans may be made in cash and oftentimes are so made. The borrower asks for and receives the actual cash over the counter. But in the great majority of cases a bank loan results only in a credit entry in the borrower's account for the amount of the loan, or its net amount after interest has been deducted. The reason is obvious. Because of the large use of checks business men do not wish cash when they can borrow money at the bank. They simply wish to increase the total of their checking account so that they can issue additional checks. They have little use for actual cash for they

pay their bills by check. It is also more convenient for the bank to make loans in the form of entries on the books of the bank for it obviates the necessity of using currency. Because of the relation which exists between the amount of deposits in the bank and the loans which the bank can make, the bank is enabled to loan more money than if it were called on to pay out cash each time it made a loan.[3]

Limit on Bank Loans.—Careful banking practice dictates limit on the amount of loans which will be made to any one individual or to any one business enterprise. It is much safer to spread out the loans of the bank among a large number of concerns or individuals than to concentrate. When loans are made on collateral, the bank must protect itself against any possible shrinkage in the value of the collateral if it is compelled to sell it quickly. For this reason loans secured by collateral are usually limited to a definite percentage of the face value of the collateral. This may be as high as 80 per cent when good marketable bonds are the security, but it may be 50 per cent or less when real estate or factory equipment is the security. The financial condition and reputation of the borrower also affect the amount of the loan which he may secure on collateral posted. When money is "tight" a smaller amount will be loaned than when it is plentiful. The amount of money loaned to any one individual either with or without security and the total amount which a bank can loan to all borrowers is set by the fact that when a bank makes a loan it is really loaning the deposits left with it by its depositors. A discussion of banking practice in loaning its deposits, the basis for this practice and the principles which determine how much a bank can safely loan is beyond the scope of this book. The student who is interested in pursuing this topic further may do so by reading in any good book on money and banking where he will find the subject fully developed.

[3] See Fitzgerald, J. A., "Making Use of a Bank," pp. 167-173.

Other Services of Commercial Banks—Business Advice.—In addition to offering a safe place for the deposit of funds, to making the modern checking system possible and a loan service available, commercial banks offer a variety of other services to business men. One of the most important of these other services is the advisory service. Because of their close contact with many kinds of business, bank officials are competent to advise their customers or clients on many matters of business policy. For example, a retailer may consult with his banker as to the advisability of putting his business on a cash basis, that is selling goods for cash only, rather than on credit. He may ask his banker for advice on the purchase of goods for the future, or regarding the wisdom of erecting an addition to his store building. A manufacturer may consult with his banker about the advisability of buying large stocks of raw material or the wisdom of undertaking the manufacture of a new line of products. Especially is a banker's advice welcomed by such citizens as farmers, professional men and women who are not in active contact with business and hence need the guiding hand of an experienced and trustworthy business man. The very real service of an able banker to his community in this respect is often underestimated.

Certain banks go further in their service of advice in that they undertake to offer special technical advice to their clients. Banks located in an industrial city sometimes have an industrial engineer connected with the bank who is competent to study the businesses of the banks' clients and advise them on certain of their problems. This engineer is especially valuable to a bank in helping its officials in determining the advisability of passing on a loan to a certain factory. Banks in certain specialized agricultural sections have expert and scientifically trained farmers attached to their staff for service to their farmer customers. For example, one large bank in a district producing large quantities of boxed apples has an expert horticulturist in its employ. He spends his entire time in consulting

with the farmer customers of the bank and in aiding them in their problems of production and marketing of apples. The general public does not appreciate the service which many banks are rendering in these ways.

Safety Deposit Service.—Most banks offer a safety deposit service to their customers. They have as a part of their equipment a large vault in which are hundreds or even thousands of small steel boxes which are rented to their customers as a safe place for the storage of valuable papers such as insurance policies, mortgages, stock certificates, deeds, wills, promissory notes, etc., and for the storage of such articles as jewels or silverware. Such boxes usually rent for from $3 or $5 a year up to a much larger amount depending on the size of the town, the nature of the equipment and the size of the box rented. Large city banks have special vaults for this purpose, but banks in smaller towns use a part of the main and perhaps only vault of the bank. In either case elaborate precautions are exercised to guard against fire or theft. Great care is observed in granting permission to open a safety deposit box after it has been rented to a customer. This attendant often does not know the customers well enough to identify them and hence requires them to sign a slip showing the time of entry and the time of departure from the vault. This signature in case of doubt may be compared with the authorized signature of the box holder which is on file with the bank. The holder of the box is provided with a key for it and the attendant has a key. Neither key alone will open the box, but both must be used. By this and other methods, unauthorized persons are prevented from opening the deposit boxes. This is a very real service of a bank to many of its customers.

Investment Service.—Many banks aid their customers in making investments. Bankers are usually competent to advise their customers on the merits of proposed investments, at least in so far as the project in question has been studied

by the bank, and by giving sound investment advice they have aided many thousands of people in the accumulation of a financial reserve. Many of the larger banks aid their customers still further by carrying certain sound, conservative stocks and bonds for sale. Such securities are purchased by the bank for the investment of their surplus funds and hence are a particularly safe kind of investment, for banks are regulated by certain definite rules which govern the kinds of securities which they may hold. Hence the customers of the bank are usually safe in purchasing securities which have been purchased by the bank for its own investment. Banks sell these securities to their customers as a matter of accommodation to them and use the funds so secured to replace the bonds sold. This service of commercial banks supplements a similar kind of service rendered by financial brokerage houses whose sole purpose is to buy and sell stocks and bonds. Many business men find it more convenient and somewhat safer to buy from their own bank than from a broker. Small investors may not purchase a sufficient amount of securities at one time to justify the use of a broker for in general a broker charges as much for the purchase of a $100 bond as for the purchase of a $1,000 bond.

Currency Issue.—The issue of paper currency was formerly an important function of all kinds of banks. But because of unfortunate experiences with uncontrolled issue of currency, only national banks now have a right to issue currency. Practically all national banks have some paper out but the importance of this kind of money is decreasing from year to year and this function of banks can be said to be relatively unimportant. Regulations of the federal government which govern the issue of paper money by national banks are such as to make its issue unprofitable. Other kinds of paper money supply the need for such currency and hence it is comparatively unimportant at present.

Credit Information.—Banks large and small are important in the exchange of credit information. Large city banks have a credit department whose duty it is to collect credit information which bears on the credit standing of its customers. It is customary for banks to exchange information so collected by them. For example, a bank in Chicago wishes to know something about the credit standing of a St. Louis manufacturer. It writes to its correspondent bank in St. Louis for the information. If they do not have it in their own files they will investigate the standing of the manufacturer in question or secure it from some bank which does have the information. Such credit information is rendered free or for a very small charge as a sort of reciprocal service since the St. Louis bank may very likely have occasion to ask for a similar service from the Chicago bank.

Foreign Exchange.—Banks, especially those in the larger centers, deal in foreign exchange either directly or through agents in larger cities. That is, if a customer of the bank has a bill to pay in some foreign country he may secure a bill of exchange or draft from his bank and send it to his creditor. The foreign exchange department of a bank located at a port or in a city where there are many manufacturers which carry on foreign trade is of real importance. Similar banks in foreign sections of our larger cities find this to be an important phase of their business because of the demand for foreign exchange by the aliens who wish to send money home to the old country.

With the exception of a few banks in the larger cities, banks which sell foreign exchange do so by virtue of their relations with what is called a foreign exchange house or with the foreign exchange department of a city bank. Because of fluctuation in the rate of foreign exchange there is considerable risk involved in its purchase and sale. Hence the great major-

ity of banks act only as agents for the special banks or houses which deal in foreign exchange as their principal function.

Bank Organization

Stockholders and Directors.—The stockholders of a bank own the bank. But in general they are engaged in other business enterprises and devote but little time to the business of the bank which they own. They hold at least one meeting a year at which time they elect members of the board of directors, pass on increases or decreases in the capital stock of the bank, and on matters of broad general policy. In the main, however, they delegate the management of the bank to an elected board of directors, in which respect they are like the stockholders of any other business corporation.

The board of directors of a bank is usually composed of the stockholders who own the most stock. Usually the members of the board are engaged in other lines of business, only a portion of their number being active full-time employees of the bank. The board of the average bank meets once or twice a month to pass on matters referred to it by the active officers of the bank and to pass on matters of general policy. The board elects or hires the principal officers of the bank such as the president, vice presidents, cashier, assistant cashiers, etc. The board of directors also has a number of committees for specific purposes such as the loan committee which passes on loans, the examining committee, etc. Tellers and other minor employees may be selected by the board or by the president or cashier, whichever one is actively in charge of the bank.

Bank Officials.—The president of the bank may be a full-time employee of the bank and as such actively in charge of the bank, or he may simply be one of the members of the board of directors chosen to preside at its meetings. If he is the active head of the bank his duties are those of any general

manager of a business. In addition he signs all paper money issued by the bank, if it is a national bank, as well as all stock certificates, and represents the bank in its dealings with the public.

The importance of the cashier of the bank varies with the size of the bank. In a small country bank he is frequently the operating head of the bank, for the bank president is often inactive. In larger banks which have an active president, the cashier is a somewhat minor official. Certain definite duties are assigned to him but in general they are routine in nature.

Large city banks have a number of vice-presidents whose duties vary greatly. In general, each is in charge of one phase of the bank's business. For example, one may be in charge of the credit department, one may have charge of the bond department while another handles the bank's advertising. The safety deposit department is often assigned to a vice-president for his personal supervision. Assistant cashiers are responsible to the cashier for a definite phase of the work of the bank, such as the new business department, the transit department, and the bookkeeping department, etc.

The public most often comes in direct contact with the tellers of the bank. The receiving teller accepts all monies, notes, drafts, etc., presented at his window for deposit. He must see that the deposit ticket is properly made out, that it agrees with the amounts of the checks, drafts, etc., presented, that these papers are properly indorsed and that money presented is genuine. If any charge is made for collecting out-of-town items he must deduct the proper amount. Like the paying teller, he comes in direct contact with the patrons of the bank and should have the proper personality for meeting these people and for building up good will. The paying teller pays out funds on proper request from depositors. He must be very accurate in his handling of money and must have a good memory for signatures, names and faces. A good bit of the success of a bank depends on the personality of the tellers. In

the great majority of banks one person performs the duties of both the receiving and paying teller, for it is more convenient for a patron to do all his business at one place. Large city banks, however, separate the two functions.

Other Financial Institutions

The Trust Company.—Trust companies are a kind of bank which in their earlier form were organized to render a special type of financial service. They did not compete with state and national banks, but confined themselves to certain specific types of services which the commercial banks at that time were not performing. Trust companies, then and now, aid in the administration of personal estates. For example, it may be provided in a will that the estate of the deceased person shall be administered by a named trust company rather than by some individual named in the will as the administrator of the estate. Active management of the estate is then taken over by the officers of the trust company. If it is to be divided among certain heirs, the trust officials make the division as provided in the will. If, as is often the case, the widow is given life use of the property and at her death it is to be divided among the other heirs, the trust officials manage the property and turn the income over to the widow. Many American business men wish to live abroad after they retire, or perhaps wish to spend the winter in California or Florida. This causes them to turn the administration of their property over to a trust company which manages it and remits the proceeds to them. Trust companies also hold and administer trust funds such as those to which minor children become entitled when they reach the age of 21, or in the case of many universities and colleges, trust funds for the support of an institution may be given to a trust company for administration.

It has been shown that trust companies aid in the financing of many kinds of business by holding the mortgage which is

the security for a bond issue. In this case the trust company collects the interest on the mortgage from the issuing company and pays this interest to the bondholders. In the larger cities, trust companies often act as registrars for stock issues. That is, the trust company keeps the list of stockholders of a corporation and makes changes in this list as the stock changes hands. Trust companies often hold papers for delivery to a third party when the conditions set up by the party delivering the papers to the trust company have been fulfilled. In this way the third party knows that if he meets the conditions, he will secure the papers.

Modern trust companies perform the services indicated above and in addition most trust companies perform a general commercial banking business. That is, they have lost their distinctive character—that of rendering trust services only—and have become competitors of state and national banks. They accept deposits, render checking service, make collections and grant loans. To meet the competition of trust companies in the commercial banking field, commercial banks have reciprocated by indicating their willingness and even their desire to fulfil any of the trust functions mentioned above. They have a legal right to do most of these acts and have taken advantage of their right. In many cities commercial banks have conducted a joint advertising campaign to sell the idea of entrusting such duties to the commercial banks and have run advertisements designed to increase the use of trust services by business in general. As a result of the union of functions, many commercial banks have been united with trust companies, and such bank titles as "The Darby Bank and Trust Company" are common.

Investment Banks.—Investment banks, although called banks, do not carry on a commercial banking business as above described. They serve business by assisting in the sale of reputable stock and bond issues. They are the middlemen of

the financial market. They buy in large quantities and sell in smaller lots. To illustrate the service of the investment banker, suppose that a street railway company wishes to expand its business by the construction of some additional tracks. In order to secure the funds it is necessary to sell $100,000 worth of bonds. The railway company has no organization for selling these bonds; hence it goes to a specialist—the investment banker—and asks him to undertake the sale of the bonds for a small commission. The investment banker investigates the need for the new line, the financial condition of the street railway company, its dividend record, earnings, etc., and if he decides that the bonds are justified and that there is reason to believe that they will constitute a good investment for his clients, he undertakes to sell the bonds. He may guarantee the sales of the entire issue by a certain date, buying all unsold bonds on that date, or he may simply promise to give the best efforts of his organization to the sale of the bonds. If he guarantees their sale he is naturally paid a larger commission than if he does not make a guarantee. If the sale is undertaken, circulars descriptive of the bond issue are printed and distributed to the persons in the community of the investment banker who might be interested in buying the bonds mentioned. These circulars are followed up by personal calls by bond salesmen.

The above is a typical example of the work of an investment banking house. Such houses may be conducted as proprietorships, partnerships or corporations. As they are not, strictly speaking, banks at all they do not come under the regulation of the state banking department. Investment banking houses do not guarantee the securities which they sell, but they do promise their clients that they have investigated the proposition very carefully and recommend it. The future standing of the house makes imperative the observation of such a precaution.

Reliable investment bankers handle only reputable securities. They are asked to handle many more issues than they actually undertake to sell, for many bond and stock issues cannot be recommended by a careful house. Because of their experience they are able to render a definite service to investors through their careful investigation of proposed issues and because of their trained organization of sales specialists they are able to serve the business enterprises which have legitimate issues to float. Some investment bankers handle only one type of security such as utility bonds, railroad bonds, or industrial bonds or stock. Because of the careful investigation which investment bankers make of an enterprise whose securities they are asked to sell, many small business houses cannot use investment bankers, but must sell their securities elsewhere. Many bankers will not make an investigation unless the bond issue is at least $100,000. Thus many small houses are compelled to use other methods for the sale of their securities.

The Note Broker.—Many business houses find it desirable to borrow money at places other than their local bank. In some cases the regular banker patronized by the business has loaned as much to it as he cares yet the business is still in need of additional funds. Sometimes business houses wish to conserve their credit at its local bank for use in emergencies and therefore borrow elsewhere on its promissory notes. Frequently interest rates are lower in other sections of the country and hence it is desired to borrow in those sections rather than at home. The services of a note broker are utilized to secure loans from a distance. Promissory notes of the business, in amounts of not less than several hundred dollars are sold to a note broker, or rather placed with him for sale. He finds some other bank in the community which has available funds and is willing to purchase the notes in question, or he may sell the notes to a private investor. Note brokers because of knowing the market for promissory notes are able to sell them

to bankers in another section of the country who have surplus funds for investment. The broker simply brings the buyer and seller together and for his services he receives a commission of about ⅛ or ¼ of 1 per cent of the face of the notes sold. In order to sell promissory notes in this way, the reputation of the issuing house must be of the best, and their financial statements must indicate a healthy business, for in general such notes are not secured in any definite way. The note broker renders a real financial service for the well established house which can make use of his services.

Stock Exchanges.—It is beyond the province of this book to undertake a complete or even understandable description or discussion of the work of the stock exchanges in the different cities. Let it be said, however, that they render a definite financial service to business in that they aid in furnshing a market for securities, both stocks and bonds. By furnishing a place where buyers and sellers of such securities may meet, through their respective brokers, they furnish a ready and sure market for stocks and bonds at some price. By maintaining standards which must be met before a security may be "listed," that is, sold on the exchange, they give some guarantee that the securities traded in on their floors are of some definite value. Hence a business house with funds for investment may be justified in buying such securities. Some business houses are served in this way by the established stock exchange. But the more important service is in aiding in floating an issue which has been listed for sale on the floor of the exchange. Many business houses having issues of sufficient size and reliability find it more economical to sell their securities on the stock exchange rather than through investment bankers or direct to the investors. The greatest service, however, is probably in that, as above stated, the stock exchanges furnish a continuous market for securities. They furnish also a ready market for the securities of a business, for not only are they

purchased on the floor of the exchange but outside investors are more ready to buy a certain security issue if they know that it can be quickly sold at the stock exchange whenever it is so desired. Many of the larger cities have stock exchanges dealing largely in local issues, but in each case having some national issues listed for sale. The principal exchange and the one which serves the country as a whole is the New York Stock Exchange. There are in addition to the New York Stock Exchange two other important exchanges in New York, the Consolidated Stock Exchange and the Curb Exchange.

Sale of Securities.—In addition to selling securities through investment bankers and the sale of a relatively small number of issues on the stock exchange other methods are used. A common method is to advertise the fact that a new bond issue has been authorized and that subscriptions will be accepted. If the standing and reliability of the issuing concern are well known and if there is an active demand for good investments, a considerable issue of bonds, and of conservative stocks may be sold in this way. Many bond issues are sold wholly or in part to commercial banks for investment of their surplus funds and for sale directly to their customers.

"Over the counter sale" of stock and bonds is becoming common especially in the case of public utilities. Utilities are coming to see that there is a definite advantage in having their stock widely held among their customers. Hence many utilities have made definite attempts to sell both stock and bonds to their customers who are induced either by advertisements or by letters to come to the office of the company and there purchase securities directly from the company. The method has been successful in many cases. A similar idea is involved in the sale of stock to employees. Many corporations allow their employees to subscribe to stock in the company and to pay for it by deductions from the weekly pay envelope or check. The interest of the employees in the welfare of the company is

stimulated by such stock ownership. That is perhaps the principal reason for the use of the plan, for the total sale of stock is usually smaller and made at greater expense than would have been necessary had the stock been marketed to the general public.

A unique method of selling stock was introduced by the United Drug Company when the Rexall line of drug preparations was placed on the market. Under this method in order to secure an exclusive agency in his town for the Rexall line, a druggist must purchase a certain number of shares of stock in the United Drug Company. The plan was successful in helping the company dispose of its stock and enlisting the cooperation of the dealer stockholders in pushing the Rexal products. The Winchester Company has successfully used the same plan of stock ownership by merchants in the introduction of its plan of exclusive agencies for Winchester Hardware products. A rival of the Rexal line of remedies combined the sale of stock to druggists with sale to publishers of newspapers who were given stock in the company making the line of drug preparations as payment for advertising space.

Mortgage Companies.—Long-time financial needs of business are served by mortgage companies. These are institutions which invest their capital in mortgages secured by real estate, either rural or urban. Such mortgages are placed with a trustee as security for a bond issue. Money obtained from the bond issue is reinvested in mortgages and these mortgages are placed with the same or another trustee as security for a second bond issue. The process can be repeated many times, but each time some capital of the company is involved, for the bonds issued by the trustee are never quite as large as the total of the mortgages placed with him for security. The company sells its bonds for about one half per cent less than it receives as interest on the mortgages owned and hence has this margin for expenses and for its profit. Mortgage houses deal largely in mortgages

placed on apartment houses and hotels and on business buildings. Some specialize in farm mortgages. Usually only first mortgages are used as security but some houses dealing in second mortgages are in existence. They receive and pay a higher rate of interest than is common on first mortgages. Mortgage houses serve business in two ways: They offer a safe but at the same time fairly high paying form of investment for persons having savings or other funds for investment. They also help business by furnishing a method by which the savings of many small financiers can be drawn on and accumulated in such total sums as to make possible the financing of a considerable building project. Some mortgage houses also sell mortgages which they hold directly to one person who is able to purchase the entire mortgage.

Loan Agents.—A special type of service is rendered by loan agents. These are persons who represent capitalists or institutions having money for loan. Life insurance companies make a practice of loaning a part of their reserve on first mortgage real estate security. But in order to secure the proper number of good mortgages and to diversify their investment by loaning in different sections of the country, they must make loans in many of the smaller towns. It is their custom to appoint either a banker, a real estate agent or perhaps a lawyer in a community where they desire representation to make loans for them in that community. He is announced as their agent and persons seeking to secure a loan go to him. He investigates the security and the status of the proposed borrower and makes a report to his principal—the life insurance company. If it approves the loan the money is sent to the agent who turns it over to the borrower when he has presented a properly drawn mortgage. Such agents are paid a small commission for their services. They can render good service to the insurance company because of their knowledge of local conditions.

Finance and Credit Companies.—A somewhat new type of financial institution is the finance company. Such companies exist to aid persons in buying personal property when they are unable to pay cash for such property. The most common use is in connection with the purchase of automobiles although they are also used to aid in securing phonographs, radio equipment, furniture, jewelry, etc. Suppose a person wishes to buy a car but has only about 15 or 20 per cent of the purchase price. By going to a finance company he can borrow the remainder of the amount needed and pay cash for the car. He, however, must give a chattel mortgage to the finance company. This gives the company control over the car and prevents its removal from the county where the purchaser lives. Definite monthly or weekly payments are required by the company and a high rate of interest is charged on such loans. If at any time the purchaser defaults on a payment, the car reverts to the finance company. The purchaser is required to keep the car insured against fire and theft and also to carry liability insurance so that he and the finance company are protected in case of accident. In this way the company is protected in its investment and at the same time receives a high rate of interest on such loans. There is considerable question as to whether the operations of finance companies are socially and economically justifiable because of the fact that they make it possible for many people to have cars who are not economically entitled to them. But as business institutions they are becoming of increasing importance.

A variation in the use of the finance companies is made when the dealer in automobiles or other equipment sells his articles for a small down payment and takes a chattel mortgage. He then sells the chattel mortgage to the finance company, and makes payments to it as his customer pays him.

Credit companies are not as common as finance companies, but are used to some extent. They are similar in methods of operation except that credit companies loan funds to merchants

on open book accounts as security. Such accounts may be good, but cannot be collected at once. In this case they are fairly good security for a loan. But banks may not recognize them as such and the business man who is in financial difficulty sometimes is forced to resort to credit companies for aid. They charge a high rate of interest and loan only a limited amount on book account security. This method of financing a retail or wholesale business is usually looked upon as a last resort.

Land Banks.—Farmer business men use land banks as an aid in borrowing money for purchase of a farm, for new buildings, for drainage or irrigation and under certain conditions for fertilizer, equipment and live stock. By application to a federal land bank 50 per cent of the appraised value of the raw land and 20 per cent of the value of permanent improvements may be secured by reliable farmers who can give first mortgage security. With funds so secured the farmer may carry out any of the purposes just mentioned. A land bank is an institution similar to a mortgage company, except that it is organized under the authority of the federal government, rather than by private individuals under the corporate law of the state in which the business is located. In return for grant of authority, because of certain assistance in the original financing of these banks, and because the federal government stands back of its bonds and has exempted them from federal taxation, land banks must obey certain regulations laid down by the federal government for their guidance. There are 12 federal land bank districts and in each district one land bank has been organized. Loans are made by these 12 land banks through local loan associations, the members of which are the borrowers from the land bank in each local community. Loans are made on first mortgage security only. Funds available for loans have as their source the original capital of the farm loan banks, a minimum of $750,000 each, and receipts from the sale of

bonds secured by the mortgages held by the banks. Loans are made in general for a period of 33 years. In addition to interest the borrower pays each year such an additional amount as will pay off the loan at the end of the 33-year period. The banks have been of service in that they have furnished a more adequate supply of capital for farming operations, especially in the South and certain other sections, and have furnished this at lower interest rates than could private capitalists. In addition the plan has given the farmer borrower a chance to reduce his loan by paying off a small part of the principal each year.

Joint stock land banks are similar to the federal farm loan banks except that they are entirely a private venture. They loan on first mortgage security and sell bonds based on the mortgages so secured. They can operate only in the state of their principal office and in one adjacent state. The federal government has no responsibility for their bonds except that their business is rather generally supervised by the same board which governs the federal farm loan banks—the Farm Loan Board. This board approves all collateral used as a basis for bond issue. There are a large number of these banks. They have been of value in supplementing the work of the much smaller number of federal lands banks.

The Federal Reserve System.—The work of all national and of many state banks is supplemented by the banking organization known as the Federal Reserve System. This is a system of banks organized under the direction of the federal government and operating under the control of a federally appointed commission—the Federal Reserve Board. Federal reserve banks are essentially "bankers' banks" and hence the average business man does not use them directly nor does he come in direct contact with them. For this reason their organization and methods will not be here described. It is sufficient to state that the principal service of the 12 federal reserve banks to business is rendered through the medium of federal

reserve notes—a type of paper money issued by these banks on the basis of promissory notes discounted by commercial banks with the Federal Reserve System. The addition of this kind of paper money has given an elasticity to our currency which has helped all kinds of business. An account of just how this elasticity is accomplished, the reasons why it is necessary and a fuller description of the work of the federal reserve banks may be found in any standard work on money and banking.

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CHAPTER XVIII

PERSONAL OR PRIVATE FINANCE

Importance of Private Finance.—Modern-day business demands large amounts of capital. The principal source of increased capital available for business is in the savings of individuals. Millions of savers, even though the amount saved by each may be small, build a total which is significant. Expansion of many lines of business is made possible only by drawing on such savings through the sale of bonds or stock to the individuals who have put money aside. Because of the importance of these savings and because of the fact that certain institutions have been developed which have for their object the encouragement of savings, some consideration of the different types of savings institutions which can be used by individuals is undertaken in the present chapter. The individual as distinct from the business enterprise must also use certain institutions for the safe keeping of funds, for personal loans, and as an aid in his investments. This chapter describes the services of those institutions to the individual.

The Individual as a Depositor.—Individuals, like business houses, use commercial banks for a variety of purposes. Private funds need safe keeping and hence many millions of people deposit funds for which they have no immediate use in commercial banks where they are safely held until the individual checks them out. Pay checks and the contents of pay envelopes are deposited wholly or in part. Interest coupons from bonds owned by individuals are deposited with the bank for collection and credit to the private account of the depositor. Debts owed to the depositor by individuals or businesses in distant cities are sometimes collected by sending a draft drawn on the debtor

through bank channels for presentation to the debtor. The proceeds of such drafts are deposited to the credit of the individual's account. Checks received by the individual are taken to the bank and by it credited to the depositor's account. Many deposit accounts built up as above described are reduced by drawing checks on them for the payment of bills, for the individual finds the check just as convenient a method of paying bills as does the business house.

The use of checks makes it unnecessary for the individual to carry considerable sums of money and hence gives greater safety to financial transactions. Cancelled checks serve as receipts for the payment of bills and make the use of a formal written receipt unnecessary. For these reasons there has been in recent years a rapid increase in the use of checks, not only by business houses, but by individuals for their personal financing. Especially is this true of workers who receive their pay only once or twice a month and desire to spread out the payment of their bills over the month. Because of the irregularity of farmers' income there has come to be a rather general recognition and appreciation of the advantages of the checking account by progressive farmers. Professional men whose fees are generally irregular in time of receipt find the checking account essential in order to safeguard funds received and to make possible the payment of their bills at the time of receipt.

The Individual as a Saver.—Business enterprises have little need for savings except as savings are accumulated for definite future use by the business, as for instance, sinking funds built up for the payment of bonds when they become due, or for future additions of plant or machinery. Some business enterprises, too, build up reserve funds to lessen the effect of business fluctuations. In general, however, there is no analogy in the business world to savings made by individuals.

Private persons should provide for their old age or possible loss of earning power because of sickness, injury, or loss

of employment as the result of poor business conditions. No one wishes to be dependent on his children or to look forward to life in a public institution. Hence in every well regulated family some attempt is made to set aside a portion of the income, however small it may be, as a reserve on which to draw after the age of active business participation is passed. Many of our social ills are the result of failure to save. Modern day life makes many demands on incomes. Savings in most cases are the result of definite denial on the part of the saver. But with an increasing realization of the position of one who does not save and with the perfection of institutions which make savings easy and attractive, has become a stimulus to saving which may result in lessening the burdens of society in caring for those who have not provided for their old age and others who have been driven to crime as a result of their inability to meet financial necessities growing out of their failure to save.

Savings Institutions—Commercial Banks.—The commercial bank is one of the most important institutions used by the individual saver, for most commercial banks have a savings department. Accounts in this department are entirely separate from checking accounts. A person may have both a checking and savings account in the same bank, but there is no relationship between the two. If the checking account is overdrawn the check will not be honored by the bank even though there be a considerable balance in the same person's savings account. Deposits are made to the savings account or to the checking account. Checks are not used in withdrawing funds in the case of the savings account. If it is desired to withdraw all or part of the account, the depositor signs a special application of withdrawal and the desired amount is paid to him. Ordinarily no interest is paid on checking accounts, but in a few instances banks pay a very low rate of interest on the average balance of the account if it has not fallen below a

certain set figure during a certain period. Savings accounts, however, ordinarily draw interest. Common practice provides for the payment of a low rate, usually 3 or 4 per cent on all sums deposited. Interest is figured on each separate deposit from the date of deposit to the end of the year or other definite interest paying date. Some savings banks require thirty days' notice of all contemplated withdrawals. This precaution is due to the fact that if the bank is to pay interest it must invest the amounts deposited with it. If funds are invested as received it may not be possible to pay out savings to depositors without notice. This regulation is usually not enforced except in the case of the withdrawal of comparatively large amounts for the bank always has a margin of uninvested funds. Commercial banks operate savings departments as a matter of accommodation for their customers, for it is convenient for them to do all their banking business at one place and because of the possibility of profit from savings operations.

Savings Banks.—Some years ago banks which conducted no other business than the acceptance of funds upon which they promised to pay a certain rate of interest were common. They did not offer checking account service, no collections were made, and none of the other services of the modern commercial bank were rendered. Commercial banks, at that period, did not accept savings deposits. But slowly bank after bank began to take on the features of the other type of banks. Savings banks were forced to render commercial banking services because commercial banks were accepting and actively soliciting savings deposits. Hence the line of demarcation between the two types of banks is not closely drawn today. Many banks have the words "savings" as a part of their corporate name but it often denotes nothing as to the nature of the business done by the bank, for the larger part of its business may be ordinary commercial banking.

There is, however, one distinct kind of savings bank which

confines itself largely to a savings business. In some sections of the country, notably New England, savings banks are organized on a mutual basis, that is, no rate of interest is guaranteed or even promised to the depositors but each must take a chance on the earnings of the bank. If they are large he receives a high rate of interest; if they are low, he receives a small interest payment. A board of trustees operates the bank in the interest of the depositors. It loans the funds of the bank and determines its policies. Such a bank carries on only a savings business and does not render the other types of banking service.

Building and Loan Companies.—In many sections of the country building and loan companies are very important savings institutions. Organized primarily to encourage and make possible home ownership, they have taken on many of the features of savings banks. Deposits are accepted by the building and loan companies and a certificate of deposit is issued which bears interest at a given rate, often 5 per cent. This is often ½ or even 1 per cent higher than the customary rate paid by savings banks and hence such certificates are coming to have rather a wide use. This is accomplished in several ways. Perhaps the oldest is by selling shares of stock in the company to persons who wish to save for home ownership. A person agrees to buy so many shares of building and loan stock and to pay so much a month for these shares until they are paid for. Thus he has created a definite obligation for himself. This in itself stimulates savings. Some companies provide that if the monthly payment is not met promptly a certain fine shall be levied against the delinquent. When the shares have been completely paid for the owner has enough money saved in this way to make a first payment on a home. The money may be used to either purchase or build a home. Persons who have no intention of saving specifically for the building of a home also buy shares of stock of building and

loan companies in order to have the stimulus of regular payments as an encouragement to save.

Building and loan associations also sell stock which is completely paid for at the time of purchase. This is attractive for some investors because such stock usually pays a regular and fairly good rate of return in the form of dividends. These dividends are paid out of earnings of the company which arise as follows: Funds secured by the company in any one of the three ways above mentioned must be invested for the company obligates itself to pay either interest or dividends on all funds which it holds for others. The usual and in fact about the only form of investment for building and loan companies is loans on real estate secured by first mortgages. Such loans are usually made at a rate which is slightly higher than the rate paid to depositors. Hence there is some margin of profit after expenses of operation have been paid and from which dividends may be paid.

The majority of loans of building and loan companies are made to stockholders for, as has been indicated, perhaps the majority of persons who buy stock in building and loan companies do so with the intention of using such savings for securing a home. In general they buy or build before they have saved enough to completely pay for the home. Hence they borrow the balance from the building and loan company in which they hold stock. Stockholders are given the preference when the company has money available for loans, but loans may be made to others if the stockholders do not wish to borrow all that is available. First mortgage loans are usually limited to a definite percentage of the value of the property. If this is done depositors are protected for there is little chance that the mortgaged property will ever be sold for less than the amount loaned, even at a forced sale. Persons who borrow to complete the payments on their property may either subscribe for stock in the company and make monthly payments on this,

the stock cancelling the loan when it is paid up, or they may borrow without purchasing stock and make monthly payments. One great advantage of borrowing from building and loan companies is the privilege of making monthly payments on the amount borrowed. Funds borrowed from private capitalists or insurance companies cannot be repaid in this way, but must be accumulated and held, often without interest, until the principal becomes due. It will be readily seen that monthly payments are an advantage to those persons whose income is received monthly or weekly. In case of other types of loans the borrower must accumulate a fund sufficient to pay principal and interest upon the maturity of the loan. There is also the stimulus of forced saving.

Building and loan companies are especially common in the middle and far west. They have been of great social value in that they have made it possible for thousands of persons to own homes who might otherwise have not had this privilege. Home owners are a more settled and more stable class of citizens than tenants or renters as a rule. By encouraging savings and by making a safe and attractive form of savings available they have done much to encourage thousands of people to save regularly and by so doing have aided community development. This result has in part been made possible by systematic advertising of the advantages of the building and loan companies as a medium for the deposit of savings and as a place for borrowing money to aid in securing homes.

Life Insurance.—Life insurance is an important method by which savings are accumulated. It is carried for two reasons. One, the protection of dependents left by the premature death of the insured, will be discussed in a later chapter.[1] The other, as a means of saving, is an increasingly important reason for life insurance sales. Millions of careful business men, professional men, farmers, and laborers have come to see that the

[1] See Chapter XXVI.

purchase of moderate amounts of life insurance is one of the easiest ways to save money.

Modern insurance policies protect the insured himself in a number of ways. For example, certain types of policies promise to pay a definite sum of money to the insured if he lives for a given number of years. Some policies provide for the payment of monthly income to the insured if he lives until a certain age and will continue such payment till his death. Practically all policies provide for a cash payment to the insured if he wishes to cancel his policy at any time. For these reasons life insurance may well be regarded as a definite type of saving. Perhaps more men are definitely saving by means of carrying life insurance than by any other method of saving.

Life insurance premiums must be met when due. This fact tends to make such savings more certain than are the types of savings which are left to the decisions of the saver. Saved funds are invested by trained officials of life insurance companies. Laws of many states aid in making such investments safe by limiting the kind of securities in which insurance funds may be invested.

The Individual as an Investor.—Many people prefer to combine saving with investing. They are loath to allow their saved funds to lie in a savings bank and draw a low rate of interest, nor are they attracted by the somewhat higher rate of interest paid by building and loan companies. They wish to use their own judgment in deciding where to invest their funds and because of exercising wisdom in the selection of investments they expect to receive a higher rate of return than had they allowed their saved funds to remain with the institutions named. Saving the money is the first step in investment. Investments involve risks in varying degrees but if wisely made compensate for the risks invloved. Selection of the right type and the exact form of investment can come only as the result of experience in business and through careful study of

available forms of investment. There are, however, certain considerations which apply to the determination of the type of investment to be made.

Security Investments.—Some people prefer to buy securities when they make an investment. They like the comparative safety which accompanies the purchase of a well secured bond or stock in a successful concern. Others like the speculative element involved in the purchase of stock in a concern which still has to prove its right to success. But when the securities of safe companies are purchased they yield little more than can be obtained by leaving funds in a savings bank. Such securities are usually liquid, that is, may be sold at any time on a few hours' or days' notice. Especially is this true if they are listed on a stock exchange.

Bonds and sometimes stock are often purchased and held as a means of accumulating a larger amount for some of the other types of investment. They can be easily purchased as the money becomes available and can be quickly sold when the primary investment can be made. Bonds are often sold by banks to their customers on the installment plan. If the purchaser has 40 or 50 per cent of the purchase price he may buy the bond, and with it as security borrow the remaining amount from the bank. He can then complete payment on the bond by partial payments. This is an especially common method of selling bonds which pay a rate of interest at least as high as that charged by the bank for the loan made for their purchase.

Stocks and bonds may be purchased from any one of a number of agencies. As just indicated, commercial banks sell bonds to their customers and often aid them in purchasing bonds when they do not have a large enough amount of cash to pay for them completely. Bond salesmen representing investment banks, or bond houses as they are often called, call upon people who are known to be frequent purchasers of bonds, or on people who may have received an inheritance or have

collected on an insurance policy. Representatives of reliable houses can usually be relied on to give good investment advice to their customers. Bonds are purchased by many people over the counter of bond houses, or from public utilities which are carrying on campaigns of customer ownership. Certain types of bonds are sold quite largely by mail. Building and loan stock is purchased directly from the company. Many people buy stock from their friends or from salesmen or promoters of various enterprises. Large investors usually purchase a desired security through their brokers who either purchase it on the stock exchange, or if it is not listed, secure it from other brokers who have the desired security for sale. All in all, it may be said that the investor who seeks security investments can be easily accommodated. His problem is not to find bonds and stocks which he may purchase but to exercise the quality of foresight and judgment which will lead him to make a secure investment.

Realty Investments.—Home purchase is the principal type of realty investment on the part of the average individual. It has been said that every normal man looks forward to a time when he may have a definite spot of earth and on it a home for his family. This widespread feeling leads persons to make many sacrifices to secure their own homes. In many cases property values and rentals in a given community are so adjusted that it is as cheap to rent a house as to own one. But even when this is true the feeling of security which comes from ownership and the natural desire for homes results in the purchase of many homes. Many investors buy residential property purely as an investment because they feel that it will appreciate in value and that the income from the property combined with this appreciation will result in a net amount which will be a higher rate of interest on the entire investment than can be obtained from other forms of investment. Well located realty whether it be a farm, a business block or a residence in

a good section, frequently appreciates in value. Many buy simply to take advantage of this appreciation and sell buildings so purchased before they depreciate from age more rapidly than the ground on which they stand appreciates in value. Business properties are purchased for the same reason. All kinds of realty investments have the appeal of solidity. The investor can see just what he is getting for his money. He feels that he has some ground for exercise of his judgment and that it will enable him to purchase real estate and to be sure that the purchase is wise. An indirect form of purchase of realty is in the ownership of mortgage bonds secured by first mortgage on real estate. Examples of this kind of bonds were cited above.

The Individual as a Borrower.—Private persons have business relations with financial institutions not only as savers but as borrowers. For various reasons it frequently becomes necessary for professional men, farmers, and business men in their private capacity, to borrow money. The purchase of a home may be made before a sum large enough to pay for it entirely has been accumulated. An automobile may be purchased before it can be paid for. Personal or family sickness may involve large bills for hospital and doctor's services. College education for the children of the family may make it necessary to borrow for a term of years while this expense continues. These and other contingencies make it necessary for the individual to present himself to one of the various financial institutions which make loans and ask for a loan.

Institutions Loaning to Individuals.—Commercial banks loan to individuals as well as to business enterprises. In general, the same considerations apply to determining whether or not a loan will be made to an individual as are considered when a business house applies for a loan. Formal financial statements are not often required but if the loan is large the banker will develop about the same facts by a series of questions put to the applicant for the loan, for he must know what liabili-

ties and assets the borrower has and what provisions he can make for the repayment of the loan. Bankers usually consider the purpose of the loan. Collateral is often required as security for a loan to an individual, just as it is frequently required in the case of business loans. The general reputation of the borrower and his standing in the community are considered, just as they are when a business man applies for a loan for business purposes. Loans made by commercial banks to individuals generally are made for a comparatively short time, often, 30 to 90 days, and hence are of service only when the money is needed for temporary use. In general other lending institutions must be used when the loan is needed for a period longer than 6 months though the rate may fluctuate in either higher or lower level according to the demand.

Life insurance companies offer a loan service to their policy holders. Practically all life insurance companies have a clause in their policies which guarantees a loan to the policy holder, the amount depending on the type and length of time which the policy has run at the time of application for the loan, the amount which will be loaned being stated definitely in the policy. The policy itself is used as collateral security for the loan. Many individuals find it convenient to borrow on their policies, and thus not reduce the amount of their credit at their bank. The rate of interest is about the same as that charged by commercial banks but loans can be made for a much longer period.

The loan service of building and loan companies has been described. It is confined in general to loans on real estate security and hence is not available for use by a great many borrowers who cannot present such unmortgaged security. Home owners may borrow from building and loan companies when they buy or build their homes and complete payments on the loan, but because of sickness or financial difficulties be forced to resort to the building and loan companies for loans at a later period. Loans made by building and loan companies

are usually made for a considerable length of time and at a rate lower than that charged by commercial banks or by private capitalists who loan for shorter periods on a poorer security.

In every community there are persons who have accumulated fortunes of varying sizes and who make loans to individuals. Borrowers can go directly to these persons and make application for a loan. If they can offer proper security or can satisfy these persons, that they will be able to repay the loan when it becomes due they are granted the loan. Length of such loans varies from a few days to several years. The rate also varies greatly, for it depends on the security offered, the reputation of the borrower, the contemplated use of the money, and the general state of supply and demand for such loans in that community at a given time. Often a bonus or premium in addition to the interest is charged. By charging such a premium or bonus for making the loan the lender can secure perhaps 15 or 20 per cent or even more than that, though by the laws of most states he is prohibited from collecting more than 10 per cent as interest.

Other Forms of Loans.—When an individual buys goods at a store on credit, even though this is limited to 30 days or less, he is borrowing money or its equivalent in goods. There are a number of reasons why goods are purchased on credit other than the necessity on the part of the purchaser of delaying payment for them for a period. The convenience of buying on credit, especially when goods are ordered by telephone, or when goods are taken out on approval accounts for a considerable portion of credit sales. Many merchants deliberately encourage credit purchases for they feel that they have a larger hold on such customers than on those who pay cash for their purchases. But whatever the reason for credit purchases, the fact remains that the merchant loans the same as money to the individual for the length of the credit period.

Installment purchases are also a form of loan, for the pur-

chaser of goods on this plan has the use of the goods, for a considerable period of time before they are paid for. This is the same as loaning money to the purchaser. In fact business houses which sell goods on the installment plan are usually forced to resort to borrowing money for the conduct of their business because they are often called on to pay the manufacturer for the goods long before the last installment has been paid by the purchaser. This accounts for the fact that the installment price of such goods as furniture, radio outfits, victrolas, washing machines, etc., is usually higher than the cash price. In fact, it is often so much higher that it can be easily shown that the purchaser of goods on the installment plan pays a very high rate of interest on the money borrowed in the form of goods. If the individual can do so it is usually far cheaper for him to borrow the money and pay cash for such purchases rather than to pay the extra amount charged for the privilege of an installment purchase. Title is often retained to such goods by the seller until the installments have all been paid. In other cases the seller requires a chattel mortgage on the goods purchased until payments have been completed.

In a preceding chapter it was indicated that finance companies offer a loan service to individuals. Such service is commonly rendered to automobile purchasers as above described. It should be emphasized at this point that such loans are usually made at a very high rate of interest and are not an attractive form of borrowing. In fact they should be considered by borrowers only as a last resort, or when personal credit or other forms of security cannot be offered.

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CHAPTER XIX

THE BUSINESS MAN'S RELATION TO LABOR—EMPLOYMENT AND TRAINING

Introduction.—Within the past decade there has come an increased recognition of the importance of the human factor in business both by those seriously interested in the social well-being of their employees and by those looking at the question purely from the standpoint of business profit. To an increasing extent, it is becoming evident that the great majority of workers are falling far below their potential efficiency and that faulty management is a contributing factor. Many business men are coming to realize that they can no longer delay in bringing to bear on the solution of the problems of human relations in business something of the scientific method and impartial analysis which have contributed so much to mechanical progress.

The Personnel Department.—Recognizing the profitableness of a proper handling of personnel problems and the social significance of the effective combination of men and materials in production and distribution, enterprising business men are creating separate departments for the administration of personnel problems while smaller enterprises which cannot, because of size limitations, set up separate personnel departments are nevertheless devoting an increased amount of time and attention to such problems.

In very large manufacturing and mercantile establishments, the personnel department is usually divided into a number of separate departments or divisions such as the employment division, the training division, the health and welfare division, and the research division. In the case of smaller enterprises, the responsibilities as reflected in the names of the above

mentioned divisions or departments, may fall upon a single department or a single individual. In some cases, the administration of these activities is combined with other executive duties.

Employment

Duties of Employment Department.—The employment division usually has the following duties assigned to it:

1. The selection of employees.
2. The introduction of new employees to the plant and their particular job.
3. The following up of new employees.
4. The making of recommendations for transfer and promotion.
5. The interviewing of all employees who are leaving.
6. The compilation and maintenance of personnel records.

If the employment department is to function effectively, it must bring to its tasks a very complete knowledge of the labor market and the sources upon which it can draw for employees. In addition it must have an extensive knowledge of wage rates and hours of employment not only in the employing firm, but in competing firms as well.

Sources of Employees—Friends of Employees.—The sources of labor supply will obviously vary with the type of industry and the kind of employees wanted. Friends of present employees are coming to be looked on as constituting a peculiarly valuable source from which to recruit a working personnel. Employers recognize the fact that many of their employees have friends whom they can recommend for employment and that through this method individuals of promise may be added to the personnel. Such a method of recruiting help utilizes the knowledge and acquaintanceship of a large number of individuals and brings to the employing firm a carefully selected group of applicants. Many manufacturing

enterprises are encouraging such recommendations. In certain establishments, a large percentage of the applications for employment come through the recommendations of the foremen, with the result that in these establishments labor turnover has been materially reduced. Mercantile establishments are making substantial use of their employees in adding to their personnel. Gimbel Brothers and R. H. Macy and Company, leading department stores in New York, give a reward of $10 to an employee through whose recommendations a new employee is hired, provided that the new employee remains for at least 6 months.

Publicity.—Newspaper advertising may be used to get in touch with prospective applicants. This practice while it may be necessary and reliable is nevertheless open to some objection in that it brings to the employment department many who are obviously not suitable and who must be rejected. Trade paper advertising is looked upon with some favor as a method of getting in touch with applicants for more responsible positions since the very fact that the applicant reads a trade paper is some evidence of a measure of interest and progressiveness.

Competing Establishments.—In some instances business enterprises encourage written applications from people employed elsewhere either in competing establishments or in totally different lines of work. In order to encourage applications from those employed in non-competing lines of industry, some enterprises have utilized newspaper advertising space to point out the advantages of the particular field of employment. Department stores, in particular, have encouraged applications by such advertising.

Opinions are divided as to the desirability of encouraging applications from people employed in competing establishments. In some communities, and this is particularly true in the department store field, business establishments are prevented by common agreement from attempting to hire the employees of their competitors. Agreements of this nature especially if

they take the form of a definite refusal to consider an application from anyone employed in a competing establishment are subject to objection from the points of view of both the individual firm and that of the general public. These agreements work to the disadvantage of the more efficient firms since they prevent such firms from rapidly building up the efficiency of their personnel. From the standpoint of the employee the effect of the agreements is to rob him of the opportunity which his efficiency has justly earned. From the standpoint of general public interest, these agreements are open to the objection that they prevent the freest combination of efficient management and efficient labor, a combination that is an essential to maximum production and maximum happiness. On the other hand, too large a reliance upon competitors as a source of employees is not desirable inasmuch as such a practice may result in a high labor cost due to sharp competitive bidding and moreover may result in only increasing the labor turnover of the industry or of the community.

Educational Institutions.—Some businesses look to the graduates of educational institutions as a valuable labor resource. The employment departments of some of our larger enterprises send out representatives to the universities to interview and select prospective excutives. Many mercantile and manufacturing establishments look to the high schools, particularly the trade and commercial high schools, as a source of employees. In fact department stores have urged the inclusion of courses in retail salesmanship in the curricula of our high schools.

Other Sources.—In some cases enterprises have, in times of great labor scarcity such as occurred during the World War, resorted to house-to-house canvassing in the recruiting of a labor supply. If a craft is organized into a union, the union may set up an employment service for the benefit of its members and the industry in need of such workers may communicate its

needs to union headquarters. In some instances associations of business men, particularly the trade associations, may establish an employment department to assist their members in getting in touch with prospective employees. In a number of our states, employment offices are maintained by the state governments and these employment offices constitute a source of employees.

There are many private employment offices operated for profit. Such offices are usually specialized; that is, they supply workers of a certain class or skill. Some specialize in office operatives, others in teachers or in unskilled or semi-skilled workers for such industries as construction, agriculture and lumbering.

Agricultural industry of the specialized type, such as wheat growing in the West and fruit growing in many sections, make distinctly seasonal demands upon the labor market. To supply certain of these needs, labor must be recruited at points far distant from the place of employment and since the employment is of a temporary character, reliance must be placed upon the only large class that is attracted to such employment, namely the floating casual worker. Many other industries distinctly seasonal in their operation such as lumbering, fishing, etc., like the one-crop agricultural industry depend largely upon the casual worker. Some of the more difficult of our industrial and social problems have their origin in such seasonal industrial activity with its attendant inefficiency in production and its promotion of unemployment, and other social ills.

A number of our great industries with large labor needs have sought to increase the supply of available labor by encouraging immigration.

Job Analysis.—In order to hire employees efficiently, the employment department or the individual in charge of employment must have a very definite and clearcut picture of the work which the applicant will be called upon to do and the

qualifications necessary to efficient performance of the job. In the well managed business establishment what is known as job analysis furnishes and records this information.

Job analysis at its best consists of a careful scientific study of the exact nature of each job and the conditions surrounding the job.[1] This study, involving as it does the definite fixing of responsibility, a careful study of the sequence of operations, the amount of output produced by different classes of workers, the effect of the work upon the workers, etc., is invaluable in providing the basis for the building of job specifications, the determination of the best way of doing each job, the setting of standards of job performance, the determination of wage rates, and the preparation of an educational program.

Job specifications constitute a statement of such factors as the physical, mental and moral qualifications necessary in the worker, the nature of the work, the conditions under which the work is done, the length of time necessary to learn the task, the rapidity of advancement, the chance of promotion, the term of employment with regard to pay, and hours of work. An illustration can be taken from the field of retail merchandising:

A. The job specifications for a sales position in a women's shoe department might appear in part as follows:

Physical qualifications:

Age—21 to 60
High degree of personal cleanliness and neatness
Good hearing
Good health and energy

Mental qualifications:

Quick alert mind
High school graduation the minimum educational standard
Ability to write legibly
Ability to calculate accurately
Adaptable personality

[1] Time and motion studies, a description of which was given in Chapter VIII, are often an essential part of a job analysis.

Moral qualifications:
Honesty
Conditions under which the work is done:
Standing and sitting alternately
Some overtime work necessary
Length of time necessary to learn the work:
A minimum of three months
Chances for promotion:
Good, with possibility of advancement to assistant buyer's position
Terms of employment:
$20 per week starting salary
Hours of work—8:25 A.M. to 5:30 P.M. with one hour for lunch

B. The job specifications for an automobile tire builder might involve such qualifications as the following:
Physical qualifications:
Age—21 to 45
Minimum height 5 feet, 5 inches
Good sight
Good hearing
Robust physique
Mental qualifications:
Quick alert mind
Moral qualifications:
Honesty
Conditions under which the work is done:
Standing
Work dirty
Some overtime work necessary
Accident hazard small
Length of time necessary to learn the work:
A minimum of two weeks
Chances for promotion:
Good, with possibility of advancement to a foremanship
Terms of employment:
Piece rate compensation with guaranteed minimum hourly earnings of 60 cents
Hours of work—7:30 A.M. to 4:30 P.M.

An examination of these sample job specifications should indicate that they furnish bases on which an employment department can not only hire workers with real effectiveness, but also that such information is exceedingly valuable as a basis for recommending employees for advancement and is of great value to the employee in that it reduces the chance of his falling into a position for which he is not fitted.

Selection Procedure—The Interview Test.—The actual procedure involved in the selection of employees is subject to great variation. In some cases the applicant is hired on the basis of an interview alone, while in other cases every applicant is subjected to a considerable series of tests. Practically all enterprises make it a practice to interview applicants before employing them. To realize the maximum benefit from the interview, it is necessary, as we have seen, for the interviewer to have definite job specifications before him. In some cases it is customary to have the applicant interviewed by a number of officials before he is accepted, and it is frequently the practice to employ no applicant until the head of the department or the foreman under whom he is to work has had an opportunity to interview him. In the event that the interviewer is favorably impressed, he will either fill out himself or have the applicant fill out an information blank which shows many pertinent facts about the applicant.

Physical Test.—In some cases all applicants who have successfully passed the interview test are subjected to the test of a physical examination. The purposes of subjecting applicants to a physical examination are as follows: To reduce to the minimum industrial accidents to the worker and to others through detection of contributing physical disabilities; to control communicable diseases; to detect such defects and diseases as will interfere with successful work or menace others; to adapt the work to the physical condition of the worker and

to avoid placing workers at tasks for which their disabilities unfit them. For example, it is no kindness to employ an individual who is afflicted with a serious visual defect for inspection work involving considerable eye-strain. Other purposes served by a physical examination are the desire to remedy defects and to reduce the amount of sickness through advice to the workers and their education along health lines. Moreover, such an examination may assist in the prevention of occupational diseases.

The reader must not infer that physical disabilities cause the rejection of a large percentage of applicants for employment. Many suffering from disabilities are employed, but an effort is made to assign the individual to work for which his disability does not unfit him. In many cases the disability is such that it can be eliminated and the examination serves a most useful purpose through the detection of these curable ailments.

Other Tests.—Applicants for certain positions are sometimes subjected to trade tests. These tests take a variety of forms. The applicant may be subjected to a performance test involving a particular part of the work, as for example, when an applicant for a stenographic position is asked to take dictation and to transcribe her notes. In other cases the trade test may consist of trade questions which the applicant cannot answer without a measure of trade experience, or he may be asked to identify pictures of tools or machine parts which he cannot do without some trade experience.

In some cases, particularly in the past few years, business enterprises have adopted the practice of subjecting applicants to intelligence tests for the purpose of measuring their mental alertness. Such measures or ratings are useful in a number of ways. They assist in "weeding out" those applicants who are of such inferior mental ability as to seriously interfere with their performance on the job. They indicate the individuals of

unusual intelligence and make possible their speedy assignment to tasks in keeping with their intelligence. They are valuable in making promotions. These tests to be of value must be tested by applying them to workers and correlating the results of the tests with the job performance of the workers. Intelligence tests have their limitations in the fact that they cannot measure loyalty, power to command, emotional traits, etc. They are not as yet conclusive in their determination of honesty.

References are usually required of applicants. They are, however, regarded as being less valuable in the case of unskilled and semi-skilled workers than in the case of the skilled.

Other Duties of the Employment Department.—After a worker has been accepted it is the responsibility of the employment department to effect his introduction to the plant. The first step in such an introduction may be an oral explanation of the company's policies, rules and regulations. Many of our larger establishments, manufacturing and mercantile, place an informational bulletin or an employees' manual in the hands of the newcomer for his guidance and instruction. Some employment departments follow this preliminary instruction by conducting the newcomer through the plant to show him such things as the lunch, rest, and hospital rooms. The newcomer is then taken to the department to which he has been assigned and introduced to the department head and sometimes to the other workers in the department. The employment department usually makes it a rule to follow up the new worker very closely for a time to determine how he is getting along and to encourage him in his work.

In addition to its duties in connection with the selection of employees, the employment department is responsible for hearing and adjusting all grievances which may arise between individuals in the plant unless some other organization is provided for making such adjustments. The employment department is usually charged with the maintenance and study of

such records as are valuable in determining rates of pay, promotions and demotions.

Transfer of employees from one department to another are determined by the employment department. The responsibility for laying off or discharging employees also falls on the department. The employment department receives and decides all requests for wage increases unless there is a wage board or other organization to decide such questions, in which case the employment department is represented on the wage board. It is also the responsibility of the employment department to interview all employees who are leaving in order to understand fully just why they are leaving. Such information may be exceedingly valuable in indicating weaknesses in the management and in furnishing data which can be added to the job specifications and thus increase the efficiency of the department in future selections.

Training Employees

The Development of Vocational Training.—Training employees for business is no new phenomenon. Since the dawn of industry, training for business or industrial activity has been universal. Even in the most primitive society, craftsmanship was taught by precept and example. In medieval society, as we have seen, training for business took the form of an apprenticeship to a master workman. Today, however, training for business is thought of in broader terms than ever before. Our concept of proper training involves not only craft or job training, that is training the worker in the tasks of his particular job, but training of a general character necessary to good citizenship and as an essential supplement to the narrower craft or job training.

Within recent years it has become evident that the old apprenticeship system of training is entirely inadequate to meet

the needs of modern industry. The increase in the size of the modern business establishment and the complexity of its operation and functioning, call for a new type of training. Educational facilities are being developed which substitute organized and systematic training for the more or less casual, haphazard training characteristic of the industry of the past. The reader should not infer that a majority of our industries and business institutions have well developed organized systems of training for their employees. The majority of businesses still rely upon the public school for general education and upon the development of craft or job skill as a result of everyday work experiences. However, systematic and carefully planned systems of training are sufficiently widespread and their success has been such as to indicate further developments in the field of organized training.

The agencies or institutions engaged in training for business are of two general classes: (1) Those developed and operated by the individual business institution for the benefit of its own employees, and (2) those developed and operated by outside agencies.

Training Institutions—Public Schools.—Of all educational institutions, the public school is unquestionably the most important. Until the last few years, the public school devoted itself almost entirely to training of a general character on the theory that upon it rested the responsibility of training for citizenship and the responsibility of giving training of such a character as would be valuable in any kind of business. The curricula of our public schools have now been modified to include, in many cases, vocational training. Grammar schools, in some instances, and high schools in many instances have added vocational courses to their curricula while in some of our larger cities separate commercial and trade high schools have been developed. In the grammer schools, this vocational

training has often taken the form of manual training and while the training is entirely too brief to develop skilled craftsmanship, nevertheless it does develop during formative years a certain dexterity and aptitude in the use of tools which is of service as a supplement to later craft training of any description. Commerce and trade high schools are offering courses along a considerable number of vocational lines. Bookkeeping, stenography and typewriting, business arithmetic, and commercial geography are commonplaces in the curricula of the commercial high schools while trade high schools are offering instruction along various craft lines such as carpentry, machine operation, mechanical drawing, and pattern making. In the smaller towns and rural districts, agricultural training is common. This vocational training has very properly not taken the form, in most instances of a substitute for general cultural training, but has been rather in the nature of a supplement to cultural training.

The public schools of our larger cities are offering vocational training opportunities not only to those individuals who are free to devote all of their time to school attendance, but through the medium of continuation schools, and night schools are offering educational opportunities, both vocational and general, to individuals whose employment necessitates a limited attendance in the daytime or attendance at night classes only.

The universities of this and other countries have long offered vocational training along a diversity of lines in addition to general cultural training. The measure of university development in vocational training is indicated by the names of the various colleges which go to make up the modern university. A moment's thought will indicate the fact that the universities with their colleges of medicine, dentistry, law, engineering, agriculture, commerce, etc., are very definitely committed to a program of vocational training. Colleges and universities, recognizing the demands for training from those who are em-

ployed, have developed special extension courses for their benefit. These courses include the strictly vocational and those of a more general and cultural character. The courses are frequently offered in night classes and sometimes in the form of correspondence instruction.

Training by Other Schools.—Private schools, private colleges and universities have developed facilities for training for business analogous to those developed by our public schools, state and municipal universities. The Young Men's Christian Association schools, the Knights of Columbus schools, and correspondence schools add to the vocational training opportunities of the American people.

Associations of business men are devoting themselves to vocational training. Notable among associations for their training courses are such institutions as the American Bankers' Association, the United Typothetae of America, the National Association of Credit Men, and the Associated Advertising Clubs of the World. These associations have organized classes for those engaged in the field, such classes being held in the evenings. Many colleges and universities have cooperated with these associations through supplying the necessary instruction. In some communities, class instruction in a variety of fields is provided through the medium of local associations of business men such as chambers of commerce and retail merchants' associations.

Training in the Business Establishment—Necessity for Such Training.—As has been indicated, the educational activities of outside agencies or institutions have been supplemented by training developed and operated by the individual business establishment for the benefit of its own employees. In many cases the responsibility for vocational training of a specialized sort is shared by outside institutions and the business establishment. In other cases, the entire responsibility for

specialized vocational training is borne by the business establishment. Historically, systematic vocational training has been limited largely to the handicrafts and the mechanical arts and has, as we have seen, taken the form of an apprenticeship system. Taking industry at large, its efforts to train employees have been anything but systematic and the chief reliance has been placed upon the absorption of skill by the worker as a result of job experience.

Recognizing the slowness with which workers develop skill as a result of job experience and realizing the fact that untaught workers fall into inefficient methods of work, modern industry is beginning to substitute some plan for the systematic training of employees. It is becoming increasingly clear that while outside agencies may do much to lessen the training task of the business enterprise, nevertheless the differences between the methods of different business firms and the limitations put upon the efforts of outside institutions, combine to force upon the individual business establishment a substantial responsibility for vocational training. In their vocational training efforts business institutions have utilized a considerable number of facilities such as definite courses, conferences, libraries, inspection trips, suggestion systems, and company magazines or house organs.

Types of Courses—Courses for Executives and Foremen.—Three general types of courses have been offered: One type is represented by those courses offered for executives, usually those of junior rank, and which frequently involve such subjects as business policies, organization, the business practices of the company and occasionally training in the general field of business administration. Another type of course is represented in the manufacturing organization by foremen training courses. Here the subjects of instruction are usually less general and more specific in character than those involved

in the training of executives. The objects of foreman training courses are usually to develop an understanding of business administration from the standpoint of factory management, and a knowledge of the policies, organization, and procedure of the employing business, and training with reference to the particular job held.

Somewhat similar in type to the foreman training work in the manufacturing organization are the courses of instruction developed for heads of stock and assistant buyers in mercantile institutions. Many department stores offer courses of instruction for heads of stock and assistant buyers with a content similar in general character to that of the foreman training courses. Naturally business administration, policies, organization, and procedure are considered from the standpoint of the retail institution.

Courses for Subordinate Employees.—The third type or class of courses offered by business concerns for the benefit of their own employees are those offered to the rank and file of the workmen. Such courses are not necessarily vocational in the narrowest sense of the term since they may involve instruction not only in the technique of the worker's particular job, but include such subjects as English, penmanship, arithmetic, and civil government. In the main, definite course training such as has been described here is limited to the larger establishments since a fair measure of size is necessary for the maintenance of an educational department adequate to meet the necessities of such organized training.

Training systems which take the form of definite course instruction differ widely. In the case of some department stores, for example, the only organized course training is that required of all newcomers in the sales division and which frequently takes the form of a series of three class sessions on the services, policies, and sales system of the store. Other

department stores supplement this preliminary system instruction with courses on salesmanship, textile and non-textile merchandise, personal hygiene, etc. Attendance at courses other than courses in sales system may or may not be required of all workers, but when such courses as those in salesmanship and merchandise have been developed, all workers in selling departments are urged to attend.

In the case of the factory organization such definite courses of training as are given to the rank and file of the workers are subject to the same wide variation as those offered in the mercantile field. In some cases certain men are given the exclusive job of training new men. Such men are known as instructing foremen. In other instances training is not carried on in the regular shop but in special training shops, and men do not go to work in the regular shops until they have been trained. In many cases definite training departments are established and, as we have seen, the scope of the subjects of instruction vary from the more narrowly vocational in type to those much broader and more general in their scope.

Some businesses, particularly the larger manufacturing establishments, have developed special courses of training for special classes of new employees. In the electrical industry, for example, the Westinghouse Electric Company has special training courses for new employees who come to it from engineering colleges. Many large sales organizations now put all newcomers through a definite sales course. The National Cash Register Company is a pioneer in such sales instruction work.

Other Methods of Training.—In addition to such training as is represented by definite course instruction, modern business is utilizing the conference as a method of vocational training. These conferences may be designed to promote the training of executives only when attendance is confined to those in

executive positions, or they may be designed to develop the rank and file of the workers when such conferences involve a bringing together of executives and their subordinates for the discussion of work problems. Special lectures either by those within or from without the business establishment may be a factor in the training of workers.

Libraries on business and technical subjects may be provided by business institutions for the benefit of their employees. Inspection trips have also been used as training devices by manufacturing enterprises. Mercantile institutions have sometimes supplemented other training agencies by providing trips to market in the company of the firm's buyers for particularly promising sales people. Company magazines and house organs now play a part in the educational program of many firms.

Another very interesting training device which has been developed in recent years is found in the organization by both manufacturing and mercantile enterprises of what is known as a flying squadron or contingent force. It is usually composed of a number of particularly promising employees who are shifted from one department to another to care for temporary "peaks" of work. Membership in a squadron involves experience in many different departments of the business and when such an experience is supplemented, as it ordinarily is, by definite course training, the squadron offers an unusual opportunity for the prospective executive.

Training in Smaller Businesses.—Smaller business establishments, while they cannot afford to maintain the costly training machinery of their large competitors, are not free from the necessity of offering more systematic training for their employees. Unable to set up separate personnel departments and unable to employ skilled teachers, the smaller institution must rely upon the training efforts of its executives whose primary work is of a different character. In spite of

the fact that many general executives are not well equipped to offer systematic instruction, the smallness of the institution permits of their getting very closely in touch with the workers and they bring to their instructional task such a knowledge of the workers' strengths, weaknesses, and peculiarities as enables them to adapt their instruction to the workers' individual needs. Such individualized instruction is very difficult to accomplish in the large business institution, since much of the instruction work must be given to workers in fairly large groups, and as a result may be less adapted to the individual needs of each worker.

In some instances, cooperation among smaller establishments may enable the group to set up training facilities which compare very favorably with those of the larger establishments.

The United States government, in order to encourage vocational training, is subsidizing such training by sharing the expense of training with state and local governments. Under this plan skilled vocational teachers are employed to offer instruction to store and factory workers. This instruction is offered in the place of employment and thus some of the more progressive of our smaller businesses are enabled to offer to their employees substantial vocational training at a minimum of expense.

An interesting educational development of the past few years is to be found in the development of trade union schools or workers' colleges. These schools represent an attempt on the part of a working class to supplement their narrower craft training with a measure of general cultural training. Such schools frequently offer instruction in such subjects as economics, political science, and public speaking. The nature of the curricula of these schools is of such a nature that they cannot be looked upon as vocational training institutions but rather as institutions designed to supplement and increase the effectiveness of a craft training gained largely as a result of an

apprenticeship. Through such a broadening of their training, workers hope to improve their economic, political and social status.

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See also the references given at the end of Chapter XX.

CHAPTER XX

THE BUSINESS MAN'S RELATION TO LABOR—OTHER PERSONNEL RELATIONS

Introduction.—In the United States alone approximately 35,000 employees lose their lives annually as a result of industrial accidents, and some 400,000 receive injuries which are sufficiently serious to cause a loss of time from work. In the aggregate, the losses from industrial accidents result in a stupendous cost financially and in terms of human suffering.

The Causes of Industrial Accidents.—Any serious attempt to lessen the number of industrial accidents must be based on a careful study of the causes of such accidents. Accidents may be the result of mechanical, physiological, or psychological causes. Mechanical causes or deficiencies are to be found in such conditions as unguarded machinery and belts, dangerous elevators, overspeeded fly-wheels, and narrow aisles and passageways.

Excessive fatigue resulting from long hours of work, unhealthful work-shops, bad lighting and ventilation, etc., constitute the physiological causes of industrial accidents. Ignorance, lack of training, lack of mental alertness on the part of the worker, carelessness, recklessness, etc., are typical psychological causes of industrial accidents.

An examination of the causes underlying industrial accidents makes clear the fact that the management shares with the workers the responsibility for the conditions contributing to such accidents. It is the duty and responsibility of the management to remedy such mechanical deficiencies as result in an accident hazard. In the case of the accidents resulting from such physiological conditions as excessive fatigue the re-

sponsibility may rest either with the management or with the worker. Certainly the management is responsible if the fatigue is a product of excessively long hours of work or bad working conditions. Physiological conditions resulting from bad lighting and ventilation are clearly the responsibility of the management. The responsibility for such accidents as result from psychological causes may rest either with the management or with the worker. Even in the case of such accidents as result from carelessness and recklessness, the management is not without responsibility, inasmuch as much carelessness and recklessness result from faulty discipline on the part of the management.

The Cost of Industrial Accidents.—Today managements are interested as never before in the reduction of industrial accidents. This interest is the result of a number of considerations, among which may be mentioned the increased cost of such accidents to the employer. Historically the employer was not liable for damages resulting from industrial accidents unless such accidents were the result of the employer's negligence. Even if the employer was guilty of contributory negligence, he could not be held liable for damages if the employee contributed to the accident by his own negligence. If the accident resulted from the negligence of a fellow workman, the employer was not liable for damages. The result was that in most cases the burdens resulting from such accidents fell largely upon the injured workman and his family. Within recent years, court interpretations as to the liability of the employer have changed somewhat with the result that in many cases, if the employer's negligence was great, the workman has been able to recover damages in spite of the fact that he may have contributed to the accident by his own negligence.

In the past 10 years many of our states have enacted what is known as workmen's compensation legislation, the effect of which is to force most employers of labor to contribute to a

state insurance fund out of which injured workmen are indemnified. The contributions of the employer are determined by a number of considerations, such as the number of employees, the hazard of the industry as a whole, and the accident record in the establishment of the particular employer. Since the contribution of the employer depends in some measure upon the accident experience in his own establishment, it is to his financial advantage to reduce industrial accidents to the minimum.

Accident Prevention.—In addition to financial factors, considerations of a humanitarian nature have aroused employers to a keen interest in accident prevention work. Such work has taken a variety of forms. Progressive managements have begun making technical studies and mechanical installations with a view to the elimination of or reduction of structural and mechanical hazards. In order to carry out this work effectively many large establishments have created safety divisions in their personnel departments with full responsibility for plant safety and accident prevention work.

Safety-first campaigns have been inaugurated in many establishments and have played their part in the accident prevention program. Any effective safety campaign must enlist the foreman's cooperation, since upon him in most plants will fall the responsibility for promoting the safety-first spirit. Moreover, the foreman is frequently called upon to instruct new workers in the use of safety devices and regulations. Upon him falls the responsibility for pointing out hazards and cautioning workmen against carelessness and recklessness.

Managements have found it necessary to bring home to their workmen the significance of accidents to their fellow workmen and to themselves. In some cases manufacturing enterprises have developed safety-first books or manuals which are placed in the hands of their workmen, and the workmen are frequently encouraged to make safety suggestions. The

worker's paper, bulletin boards, and safety meetings at which safety films may be shown are also used to maintain and to stimulate an interest in a safety program.

Many serious results, blood-poisoning, for example, may follow the neglect of what may be originally merely minor injuries. The setting up of proper facilities for the prompt treatment of such minor injuries and instruction of the workmen as to the seriousness of neglect of minor injuries thus become essential elements in a well ordered safety program.

In addition to the business itself, a number of other institutions are engaged in safety work. The administration of workmen's compensation legislation has resulted in the setting up of commissions and boards in our various states, and such commissions are engaged in a program of safety work in addition to the duties involved in the administration of the compensation plan itself. The state and federal governments are engaged in safety work as are many of the trade associations. Trade associations may employ safety engineers who work with members in the reduction of the accident hazard. Some idea of the interest in safety work may be indicated by the fact that the National Safety Council within four years of its organization included 15,400 representatives from 3,293 firms employing 4,500,000 workmen. That systematic safety work will bear fruit is demonstrated by the fact that fully 50 per cent of industrial accidents are preventable. Twenty-two of our leading industrial concerns have reported an average reduction of 54 per cent in yearly accidents following the introduction of organized safety work.

Health Programs.—In addition to its interest in accident prevention, modern industry is very much interested in the health of the workers. As in the case of industrial accidents, the management shares with the worker the responsibility for the prevalence of certain diseases. In some cases the worker is clearly responsible for his sicknesses, as, for example, when

they result from his own indiscretions; while in other cases the responsibility for much sickness can be laid at the door of the management. Certain manufacturing industries in particular involve processes that are detrimental to the health of the workers unless every possible precaution is taken. Dusty industries in particular frequently involve a substantial health hazard. It has been estimated that approximately 5,600,000, or 17 per cent of American wage earners of both sexes, work under conditions dangerous to health as a result of dust, fumes, or gases. Other industries hazardous from the health point of view are those which involve the handling of certain poisonous substances, those in which the workers are subjected to excessive heat, cold, and moisture, and those in which fatigue or inactivity are so extreme as to constitute a serious menace to the health of the workers. As in the case of accident programs, progressive business institutions are making every effort to eliminate or to lessen occupational diseases. Dangerous dust, fumes, and gases are being eliminated by scientific ventilation both of plant and machine. Communicable diseases are being reduced by the physical examination of all applicants before their employment and the exclusion of those whose diseases may be communicated to their fellow workmen. Periodic physical examination of workers may reduce the hazard of communicable diseases, although, as was indicated in connection with the discussion on employment, it is not a common practice to force employees generally to undergo examination subsequent to their employment. The menace of communicable diseases is reduced in some establishments by encouraging personal cleanliness and health habits, through health instruction and the provision of ample washing and bathing facilities as well as by the provision of separate lockers for clothing.

An insistence upon workers wearing proper protective clothing, such as respirators, goggles, special shoes, boots, etc., may do much to reduce the health menace to workers resulting from heat, cold, dust, dampness, or harmful chemical processes. Dis-

eases resulting from undue fatigue may be reduced by a reduction of the working hours.

The provision of medical care through the maintenance of a company doctor, a company hospital, or a company nurse constitutes a distinct forward step taken by modern industry for the benefit of its workers' health. General plant sanitation represents another and an essential element in a good health program.

Recreation.—Modern industry is interested in seeing that its employees have satisfactory recreational opportunities. Recreational facilities as developed by industry serve a number of purposes. They contribute to the happiness and contentment of the workers. Many forms of recreation promote the health of the worker through the opportunities which they offer for wholesome exercise. Moreover, well founded recreational facilities are productive of a loyalty to the business and may result in a substantial increase in individual efficiency as a result of the stimulation of cooperative effort in work.

Recreational opportunities take a wide variety of forms such as libraries, gymnasiums, employees' gardens, athletic activities, vacation facilities, dances, amateur theatricals, lectures, company orchestras, motion picture performances, the publication of company papers, etc. Business libraries frequently serve a dual purpose in that they provide literature of an educational as well as of a recreational character. In the case of some of our larger institutions the book circulation may reach several thousand copies per month. Reading rooms are frequently operated in connection with such libraries.

Gymnasiums and playgrounds for the use of employees have been provided by some large businesses. Such facilities serve two purposes, recreation and health.

Some employers have secured tracts of land which they have placed at the disposition of their employees for gardening purposes. In some cases the employer has furnished seeds and

plants and offered prizes for the employees whose gardens were most successful. In other instances backyard gardening by employees has been encouraged through the provision of seeds and plants and the awarding of prizes.

Athletic activities of a competitive nature have frequently been encouraged and subsidized by managements. Company football, basketball, and baseball teams are common in modern industry. The encouragement of such competitive activities is due to a number of considerations. Recreation and health are of course the chief object of athletic teams so encouraged but undoubtedly their advertising value is of significance.

Picnics, dances, amateur theatricals, lectures, motion picture performances, and similar activities, encouraged and subsidized by the management, serve a useful purpose in the building of employee good will. In some instances the management provides an auditorium for these forms of entertainment. In a few instances large department store organizations have provided cottages and other facilities for the annual vacations of their employees. The use of such private vacation facilities is usually limited to women.

Periodicals published by the business institution may in large part serve a recreational purpose. Some years ago a great deal of the copy in such publications was designed to educate the worker and to stimulate him to greater efforts in his work. The result of the dominance of such copy was to make such publications of lesser interest to the employee. Today, store or plant news and personal items dominate the copy of the majority of these periodicals. Frequently such a publication in the very large business institution is managed by a specialist who devotes all of his time to the work. In other cases the responsibility for the publication rests upon some one in the organization whose major responsibilities lie elsewhere. The reportorial staff usually consists of certain designated employees in each of the departments of the business, or one employee may serve as a reporter for a group of

departments. The reportorial work is not expected to interfere with the employee's major work.

Housing.—Industries have sometimes found it necessary or advisable to provide housing for their employees. In the case of industries like lumbering, fishing, and mining, especially where the location of the operation is remote from centers of population and work is essentially seasonal in character, no attempt may be made by the operating company to provide housing on a family basis. Housing of workers under conditions such as these frequently takes the form of bunk house provision for the workers. Where these industries are subject to year round operation, the management may still be induced to provide housing facilities for the accommodation of the workers and their families, either because of the desire to gain the profits of a landlord or because neither the workers nor third parties can be expected to provide facilities. The workers' inability to provide housing may be due to inadequate earnings or a lack of providence and thrift. Third parties may be reluctant to provide housing because the temporary character of the industry may threaten the profitability of the venture.

The providing of housing facilities by business managements is ordinarily confined to those industries which are subjected to more or less isolation from areas of substantial population. In some instances, however, the very rapid development of the industries of a community may create a house shortage so great as to threaten the maintenance of an adequate working force. Under such circumstances, if a business is not to suffer an excessive labor turnover and not be forced to pay very high wages as a result of exorbitant rents, it may find it necessary to provide housing for its employees. Such housing ventures as develop under these circumstances differ from those in the fields of lumbering, mining, and fishing in that manufacturers' ventures usually involve the construction and sale of houses by the management on especially favorable

financial terms; on the other hand company housing ventures in the extractive fields more frequently involve the renting of houses to employees or the provision of housing of a bunk house character. Where bunk houses are provided by business institutions, housing and board frequently go together. In some cases the company deducts a specific charge from the employees' wages, while in other cases no deductions on account of board and room are made from the wages, and the board and room thus become a part of the wages of the employee. Such wages are frequently referred to as wages in kind.

In the case of agricultural industry it is a common practice to provide housing for hired hands. Married farm employees are usually assigned to a tenant house, while unmarried workers are housed either in the home of the farm owner or in a tenant house occupied by a married employee. In some cases, as in fruit-growing and other forms of one crop agriculture, farmers provide housing of the bunk house type for the casual floating laborers who are given temporary employment. Almost invariably no charge is made for the housing of agricultural workers. They receive the housing in addition to their wages, which are naturally lower than they would be in the absence of such provision by the employer. In agriculture, as in the extractive industries, board is also frequently furnished by the employer.

Historically, company housing has led to the mean accommodation of workers. Housing facilities have often been poor and of a temporary character. In many instances all the houses provided have been of a common crude design. Within the past few years there has been a substantial improvement in the type of housing provided by business enterprises. In many cases the old unsanitary, comfortless bunk house has been succeeded by the more modern dormitory, while the inartistic and crude company-house has given way to the artistic and comfortable residence. When manufacturing enterprises have constructed houses and sold them to employees there has been

a distinct tendency to construct substantial and comfortable homes with a pleasing variation in design. Ordinarily employers do not sell homes to employees unless such workers have been in their employ for a sufficient period of time to demonstrate their reliability.

Group Insurance.—Employers sometimes take out life insurance policies covering all or a substantial part of their employees. Such insurance is known as group insurance. Several different plans governing this insurance are in use. Some policies provide for the same amount of insurance for each employee regardless of the wage or length of service. Other policies provide for an amount of insurance equal to the employee's yearly wage, while still others provide for an amount of insurance varying with the length of service. Of the several plans that which varies the amount of insurance with the length of service is the most popular.

The purposes of group insurance include such considerations as the desire on the part of the employer to relieve the financial distress attendant upon the death of a wage earner, the desire to stimulate the loyalty and to develop the good will of the worker, and the desire to reduce the labor turnover. Since the resignation or discharge of an employee terminates his insurance, it is thought that employees will be reluctant to leave their employment if in so doing they will automatically lose the benefit of the group insurance.

Lunch Rooms.—Many business institutions maintain restaurants and lunch rooms for the benefit of their employees. Various reasons explain their development. In some cases the employer establishes a lunch room because of the absence or scarcity of proper restaurant facilities in the neighborhood. In other cases excessive charges by restaurant companies induce business institutions to develop their own lunch rooms. Sometimes the explanation lies in the desire to economize the employee's time and energy by supplying him with readily acces-

sible lunch room facilities. Such lunch rooms are usually operated either on a cost basis or at a loss. In a few instances, such as in the case of some of our very large banking institutions, it is the practice of the management to supply every employee with a noon-day lunch free of charge. The purposes of such an addition to the workers' income involves, among other things, the desire on the part of the management to see that every employee has a satisfactory lunch, an assurance which is lacking if the employee pays for his own lunch on an a la carte basis or carries a cold lunch.

Old Age Pensions.—An increasing number of our more progressive employers are now providing old age pensions for the benefit of their employees. Such pension systems are based on the theory that the employer owes the assurance of proper maintenance in his declining years to the workman who has served him faithfully over a long term of years. Moreover, in addition to the recognition of their moral responsibility, employers have come to see that the provision of old age pensions may be materially profitable, since such a system may minimize worry on the part of the worker and decrease the rate of labor turnover, both of which are, together with increasing loyalty, relied upon to increase efficiency of the worker.

Such pension systems usually provide for retirement and the receipt of a pension upon the attainment of a certain age or upon incurring a disability after a minimum number of years of service. Some concerns arrive at the amount of the pension by multiplying a certain percentage of the average wage by the number of years of service, while others fix the amount of the pension as a certain percentage of the average wage with the provision of minimum and maximum limits.

Mutual Benefit Associations.—Employers sometimes assist their employees to meet the losses and financial problems resulting from illness and death by encouraging and sometimes by subsidizing employees' mutual benefit associations. Member-

ship in such associations is usually compulsory, and employees' contributions are frequently added to by the employer. In addition to their social features, such associations pay certain benefits to their members in case of sickness and a lump sum to the beneficiary in the case of the death of a member.

Compensation—The Use of Straight Salary.—When industry was simple, wage payments presented few problems. Master and apprentice worked side by side and the apprentice lived in the home of his master. He received his board and clothes and, at the end of his period of learning he was given a small cash payment. Even under the early factory system personal relations were possible. But as competition became keener and the chance for men to get free land was lessened, the wage problem became more acute. The old-time wage system came to be questioned. Where the daily or hourly wages as paid were the same for all workers doing the same kind of work, the method was felt to be unfair, since such a system is simply payment on the basis of elapsed time with no relation to output. The only limit was the lower one of work so poor as to call for discharge and the upper one of work so good as to merit promotion. Between these two extremes a great variation of output was rewarded with the same pay.

In many lines of industry, particularly where trade unions are strong, hourly rates of pay irrespective of output are still in vogue. Trade unions favor the hourly wage basis, for all workers have the same interests and hence the solidarity of the workers is promoted. Many manufacturing organizations still pay employees on a straight hourly basis, and the method is general in the building trades.

In the mercantile field the straight salary method of compensation is very common. One survey made of retail establishments disclosed the fact that 55 per cent of the firms report-

ing were using the straight salary or time basis as a method of compensation. In this field, however, the straight salary method of compensation has fewer obnoxious features than in the construction and manufacturing fields, since there is a distinct tendency in the mercantile field to adjust the salary or wage paid to the performance of the worker, while in construction and manufacturing the same daily or hourly rate is frequently paid to all workers of a craft or class. In the well managed mercantile institution the management calculates the percentage relationship between a salesman's salary and his total sales. If the percentage of his salary to sales is lower than the average or standard for the department or the business, the employee's salary is raised. Where such salary adjustments are promptly made, we have under the straight salary or time basis of compensation, some proper correspondence of wages and job performance. As a result of such a situation, the salespeople in any one department may be receiving different rates of pay, and the situation thus differs essentially from the situation in the manufacturing and construction industries.

Advantages of Straight Salary.—Day wages have a number of advantages. The system is simple and readily understandable by the worker. Moreover, day wages are thought to encourage skillful and accurate work, since the worker is not hurried by the necessity of getting out so many units of work to prevent a reduction in pay. In the mercantile field the straight salary method is said to encourage the worker, particularly the salesman, to perform adequately such tasks in addition to selling as the management may direct. For example, retail salespeople are frequently called upon to do certain stock work, and it is thought that they perform such work more efficiently if they are paid on a time basis rather than on a commission plan. Traveling salesmen on a straight salary basis may be more easily induced than commission salesmen to pioneer into new sales territories which do not promise large

immediate sales. Moreover, traveling salesmen who receive fixed salaries may cooperate more freely in making reports and trade analyses than those working on other plans of compensation.

Disadvantages of Straight Salary.—Certainly compensation on the basis of time served is open to objections. As we have seen, the system frequently results in a failure to reward superior ability. The most careful supervision is necessary to maintain standards of output, for there is often no incentive other than that furnished by the foremen or department heads. A further disadvantage is found in the fact that variation in output or in sales means that cost figures may not be as readily determined in advance as under some other system of compensation.

Piece Rates.—The piece rate plan of compensation, a later development than the day rate system, goes to the other extreme in that it pays only on the number of units of output and does not consider possible causes for variation. In establishing piece rates for any industry it has been customary to take the previous daily rate and then divide this amount by the number of units produced in one day by the average worker. The advantage follows that workers who have been doing less than the average are now penalized and paid in proportion to their contribution. Better than average workers are rewarded for their efficiency. It is argued that this method is fair to all concerned and makes for labor stability and low turnover, for the workers who can best fit in to each industry naturally drift to the place where they are relatively most efficient. Labor costs can be figured in advance, for they are a fixed amount per unit.

The principal criticism concerns two matters: First, that the original unit rate is often not fairly set, in that the number of units used to determine the basic rate is too large; and

second, that as employees speed up to earn large wages, piece rates are cut. Employers tend to keep the amount earned by their workers in one day at just about the level of day wages in industries requiring a similar amount of skill. Thus all workers are penalized and caused to work too fast for their own good in order to earn a fair daily wage. It must be admitted that these criticisms have had some basis in fact in the past. Many employers have been short sighted. But the danger tends to disappear as employers become more enlightened and see the bad effect of such a manipulation of the unit rate. It is not felt that the criticism is serious at present.

Straight Commission.—The piece rate method of compensation in manufacturing has its analogy in the mercantile field in the straight commission method of compensating salesmen. Such a method involves the employer's paying a fixed rate of commission on all sales and has the advantage, from the employer's point of view, of enabling him to predetermine his selling cost. From the standpoint of the salesman the straight commission method guarantees payment in proportion to the salesman's success. The plan is subject to the disadvantages that, while it stimulates the salesman to make sales, it does not stimulate him to perform any tasks in addition to selling. Moreover, in the retail institution such a method may result in disputes among the salespeople and a general lack of harmony within a selling department. When the method is used in a retail store it is usually necessary to give the salesman a drawing account in order to carry him over the period when sales and commissions are small. In fact, manufacturers' and jobbers' salesmen working on a commission basis, must frequently be given drawing accounts. In general, the straight commission plan may be said to give the management the minimum of control over the salesmen. It does have the distinct advantage of furnishing a very direct stimulation of the salesman's efforts.

Newer Methods in Manufacturing.—Since neither straight day wages nor unmodified piece rate systems are satisfactory, each has been modified in an attempt to secure a method of payment which will be fair to all parties. One of the earliest modifications is known as the Halsey premium system of wage payment. The basic idea of this plan is the rewarding of workers for time saved in performing a set task. An average or normal time for the job is determined, and then workers are paid a certain percentage of the savings made by performing the task in less than the normal time. Thus in addition to regular payment, the worker receives an extra payment which is part of the saving in cost due to his superior ability. For example, if a time of four hours is set to do a certain piece of work and the worker does it in three hours, he will have saved one hour. If the plan provides that the worker shall receive one-half of all savings made by him, and the wage rate is 50 cents an hour, he will receive for the task, first $1.50, for the basic pay, and second one half of the saving, or 25 cents. This makes his total $1.75, which is at the basic rate of 58 1/3 cents an hour instead of the normal rate of 50 cents. The plan is simple and is easily introduced into most industries. It is considered to be fair in that it gives the worker a share of his savings and gives the other share to the employer who provides good tools, raw materials, and working conditions. It is criticized on the ground that it does not give to the worker all the savings. Another criticism is that the worker may beat the system by loafing on some jobs and then spurting on others. Time studies, however, lessen the opportunity for such loafing.

A different plan, introduced by Rowan, a Scotch manufacturer, provides that if the worker reduces the time for a job, he will receive an addition to his pay equal to the time saved. If the worker reduces the standard time by 30 per cent he receives an addition to his wages of 30 per cent. The plan has

many variations based on this idea and is widely used in industry.

Three other important plans have been introduced and have been used to a considerable extent in factories operating under scientific management systems. The first of these—the Taylor plan—provides two piece rates, one for the good men and one for the poorer workers. The standard time which should be consumed by a good worker—not the ideal time—is ascertained by time studies. The man who can do the work in the standard time thus developed receives a higher piece rate; those who cannot do the work in this time receive a much lower piece rate. The justification for the plan is of course in the difference in overhead for the two workers. The fast workman turns out many more units than his slower fellow worker and hence costs less per unit for tools, power, factory overhead, and supervision. The result of the plan is to drive the slower workers to other industries. Hence the plan can be used only when the supply of workers is greater than the demand.

The second of these newer plans is that originated by Mr. H. L. Gantt, a leader in the application of scientific management to industry. Under this plan a standard performance is set. All workers who reach this standard are paid a fair daily wage and in addition a bonus based on the amount they exceed the standard. Thus a daily wage is guaranteed to all, and superior workers receive pay for their additional ability.

The third plan is called the Emerson plan. It is like the Gantt plan in that a bonus is issued for performance of the standard task plus some additional output. But it is more complex in that it provides differentials for those who are better than average but who cannot reach the standard rate.

Newer Methods in Mercantile Field.—In the mercantile field many plans of compensation, such as modifications of the straight commission plan and plans involving a bonus, bear

certain points of resemblance to some of the newer types of compensation in the manufacturing field.

As we have seen, the sole compensation of a salesman may consist of the commission on his sales. In other cases commissions are combined with a time wage in such a way as to produce a system which many business men regard as possessing many of the advantages of both the straight salary and the straight commission systems of compensation. Where in addition to a time wage, a commission is paid on all sales, the rate of commission is naturally rather small.

Bonus plans of a variety of forms have gained considerable vogue in the compensation of salesmen. Such plans offer special rewards for excellent work and the bonus paid constitutes an addition to the regular wage. In many cases each salesman is given a quota of sales which he must exceed before he receives any bonus payment. In determining the sales quota more or less arbitrary methods may be employed. In some cases the quota is determined by the sales of the previous year or of the corresponding period of the previous year. The essential feature of bonus systems based on sales quotas is that the salesman must make sales in excess of the quota if he is to receive a bonus, and the size of the bonus is frequently determined by the amount of such excess. In fact, the bonus may consist of a certain percentage on all sales in excess of the quota.

In addition to the methods of compensation which have been described, traveling salesmen are sometimes compensated by receiving a percentage of the net profits resulting from their sales. This method of compensation has the advantage of paying salesmen strictly on the basis of their profitability to the firm, but is open to the objection that it involves much costly computation and penalizes the salesman for certain inefficiencies in the general conduct of the business.

In the case of non-selling employees in fields other than

manufacturing, the straight salary method of compensation is the prevailing system. The development of bonus plans for such employees must wait upon the development of measurable standards of performance.

In the case of stenographic employees, bonus systems have been developed by a few firms. Such bonuses usually consist of a definite sum paid to all typists whose daily output exceeds a certain minimum number of letters. A few department stores have instituted a system of bonuses for parcel wrappers who exceed certain standards in the number of packages wrapped. Cashiers in some stores are paid a bonus which depends in amount upon the number of sales check errors which they detect. In some cases the bonus paid to non-selling employees in retail institutions is paid in the form of extra vacation periods. Deliverymen are in some cases paid a bonus for delivering packages in excess of an established quota. In some cases the bonus plan for deliverymen may be in operation only during the rush season, as for example during the period preceding the Christmas holidays. The bonus to non-selling employees is in some cases not determined by individual efficiency but may depend upon the bonus paid the selling employees; in other cases the bonus may be determined by the salary received, the length of service, etc.

Compensation in the Extractive Industries.—In the case of agricultural industries various methods of compensation are in use. Of all methods the straight salary or time wage is the most common. Standards of performance are particularly difficult of establishment when the same worker is performing a wide variety of tasks. In some types of agricultural work such as fruit picking and corn husking the piece rate method of compensation is common.

In the lumbering industry, payment on an hourly basis is the mode. Workers in the fisheries, as we have seen, are frequently paid through receiving a share of the value of the

catch. In many cases, however, time worked is the basis for compensation. In mining, certain maintenance workers receive hourly or daily wages, while those actually engaged in the "getting out" of the mineral are commonly paid on a tonnage basis. It will be seen that many of these plans are a recognition that variation in ability should be recompensed and penalized.

No one plan is ideal but each seems to fit into some industries. They have been described at some length, for it is felt that the modern business man must recognize the contribution of his employees to the success of the undertaking, and also must see that all have not contributed in equal measure to this success.

Profit Sharing.—One method of recognizing the contribution of the workers to the success of the industry is known as profit sharing. It is rather an addition to other methods of payment than a method of wage payment in itself. The common plan is to determine the amount of profits for a certain period and then divide a predetermined percentage of these profits among the workers. Various plans are used to make the division. In general, no consideration is given to differences in individual ability which have resulted in varying contributions to the success of the year. It is assumed that all have contributed equally. Unless some modern method of wage payment is used in connection with profit sharing there is a weakness in the plan.

The effect of profit sharing as a reward is lessened by the length of postponement of payment and by the fact that if a company wishes to, it may use various interpretations of what constitutes profits. It is also true that shares of profits come to be looked on as a right. When profits are low or non-existent for certain years, dissatisfaction is caused among many of the workers. On the whole profit sharing has not been a success unless coupled with some form of stock ownership in the company by the employees. When the employees own

stock, the company helps them to pay for it by deductions from their wages which are applied to the purchase of stock. In many cases the company contributes an amount towards the payment for the stock which is equal to the deduction from the workers' wages. The workers are thus enabled to draw profits as dividends on the stock held. Altogether this is a sound method of maintaining a good relation between workers and their employers and deserves wide use.

Employee Representation in Management.—One of the most significant developments of recent years in the relations between employees and the employer is the increasing extent to which employees are being vested with a share in management. Increasingly, employers are coming to recognize the close relationship that exists between the employee's attitude toward the management and the efficiency with which the employee performs his tasks. The realization of this relationship and the pressure of the employee have combined to promote employee representation in business management.

Employee representation in management takes a variety of forms. In some cases representatives from the rank and file of the workers sit with executives on committees which pass upon such matters as safety, wage rates, health, and the general welfare of employees. In some cases the decisions of such committees are subject to revision by the general management, but the management is slow to reverse the action of such a committee except under unusual conditions. In some instances the action of such committees or boards is final. For example, in some business establishments an employee who has been discharged is entitled to a hearing before a committee, the membership of which is made up of fellow employees. If, in the opinion of the committee, the employee has been wrongfully discharged, it may order his reinstatement, and the management will comply with the orders of the committee. In the case of one large department store where such a com-

mittee is in existence, the management is very well satisfied with the actions of the committee.

In still other businesses, employee representation in management is effected by the setting up of a council consisting of certain executives, as ex officio members, and a number of representatives elected by the rank and file of the workers from among their own numbers. Such a council may pass upon questions of major policy as well as on those involving relations between the management and the workers.

In a few instances managements have provided for employee representation through the setting up of machinery comparable to the legislative branches of our state and federal governments. Such a plan involves the creation of a Senate and a House of Representatives with a membership made up of employees elected by a vote of their fellow workmen. Such bodies frequently have the field of their jurisdiction limited to matters of employee relationships. In every case, since the actions of such organizations are subject to review by the general management of the business, the analogy to our political organization is not complete.

Whether or not the actions of the various committees, boards, etc., through which employees participate in management are subject to review or reversal by the general management, nevertheless the development is significant of a new era in business, an era in which the employees' rights as individuals are being given increased recognition.

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CHAPTER XXI

ORGANIZED LABOR

Introduction.—Preceding chapters have shown something of the relations which exist between employees and employers and how modern industry is seriously attempting to solve its problems of human relationships in such a way as to increase efficiency and at the same time to promote the well-being of its employees and the general public. In his relations with his employees the business man may deal with them individually or collectively. In the former case hours of labor, conditions of employment, compensation, etc., become matters of agreement between the employer and the worker as an individual. In the latter case, such considerations may be determined as a result of collective action between employees as a group on the one hand and the employers on the other. The development of labor organizations and the attendant collective bargaining is one of the distinctive characteristics of modern industry. The modern business man's relations to labor are profoundly affected by the organization of workers.

The introduction of the factory system into industry brought with it many new problems and many changes in the relations of employers and employees. The solution or attempted solution of these problems has been materially affected by the development of organizations of workers. In order to understand the significance of organized labor in modern industry it is necessary for the student of business to acquaint himself with labor conditions in the centuries which preceded the organization of labor and something of the history and methods of organized labor. The present chapter is devoted to a discussion of these topics.

The Development of Labor Relationships

Early Labor.—Primitive industry found it profitable to use slave labor.[1] The Jewish nomads of the Old Testament were slave owners but because of their nomadic life were not able to make great use of slave labor. The American Indians used captives of war as slaves. But it was not until the development of the plant cultural stage of human existence that slavery became of real industrial importance. Tillage of plants requires regular labor over a considerable period of time in one locality and it was soon seen that slaves could well be used for this purpose. The peoples who first cultivated plants were frequently engaged in war and thus were able to keep up the supply of slaves. Ancient Asiatic nations as well as the Greeks and the Romans used slave labor as the basis of their agricultural and primitive manufacturing enterprises. The slaves used were often very capable individuals, in some cases being as highly educated as their owners. Many were used as school masters or tutors and as tradesmen. Such slaves were given a great deal of freedom and cannot be compared to slaves subdued by a greatly superior race. The debt of ancient civilization to the institution of slavery is great, for not only did it make possible greater production, but in its early stages slavery gave the first idea of regular sustained labor. Free individuals were influenced by the example of slaves, and with the abolition of slavery they engaged in regular occupations.

Serf Labor.—The Middle Ages saw the introduction of serf labor, a modified form of slavery. Serfs were largely agricultural laborers who worked the manors of the medieval lords. They were given many of the rights of freedom, but were definitely attached to individual manors, and could move

[1] In connection with this topic the student should review the discussion of primitive manufacturing found in Chapter V.

from place to place either temporarily or permanently only under definite restrictions. For example, if they could escape to a town and live there for a year and a day without capture, they obtained their freedom by such residence. Liberty could be purchased for a serf or he could be set free by his lord or master. In general, serfs did not owe all their time to their master but were allowed to work for others. Money so obtained was used for what was known as "commutation of services;" that is, a payment of money was made to the lord in return for exemption from rendering the services which he owed to the manorial lord. The lords were willing to accept this money, for in most cases they needed the cash. So general was this custom that by the beginning of the seventeenth century serfdom had virtually disappeared.[2] By the time of the craft gilds, labor was almost entirely free, although subject to the detailed and somewhat onerous regulations of the gilds.[3] Journeymen were under the directions of their masters, but were paid definite wages at a rate determined by the appropriate gild. Under the domestic system of industry the workers enjoyed a still greater degree of freedom, for they were to a considerable extent their own employers. But with the expansion of world trade in the eighteenth century capitalists began to employ workers to do certain tasks set by the capitalists and paid for by them. The question of wage rates came to be of importance just as soon as the workers were employed by these business men, and it still remains as one of the most important phases of labor relationships.

It has been shown above that the introduction of the factory system as an outgrowth of the changes in industry known as the industrial revolution brought about a number of changes in the condition of the workers. They were now brought together in factories where they worked under the direction of their employer and his foremen. Definite hours

[2] See Marshall and Lyon, "Our Economic Organization," page 73-74.
[3] See page 85.

of work were established and adhered to. Problems of factory lighting, heating, and sanitation developed. The wage system came to the fore. Separation of the worker from his tools and the ownership of these tools by his employers made it difficult for the worker to pass from the group of the employed to membership in the employing classes. The workers came to see that they must definitely look forward to a lifetime to be spent as factory workers. This put emphasis on the conditions under which work was carried on, on the hours of employment, and on the rate of wages received. Workers came to realize that they constituted one social class and the employers another, and that passage from one class to the other was not easy. As a result of this concept they began to organize themselves in such a way as to enable them to bargain with their employers on equal terms. In short, with the coming of the factory system, came the reasons for labor organizations, and, in a very crude form, labor organizations developed. But nearly a half century passed before labor organizations in the sense that we now know them became really effective.

Labor in Colonial America.—Colonial America was characterized by relative abundance of land and relative scarcity of labor. Land was either actually free or available at such a small price that it was easy for workers to become independent farmers. Hence throughout the colonies there were comparatively few free men working as employees for other persons. Industry was largely conducted in the homes of the workers and on the farms. Wood was sawed and meal was ground on the farm. Home tanneries were common. Woolen and cotton fabrics were manufactured in the homes. Shoemaking was a home industry for many years. On the whole there was little manufacturing and thus little or no demand for factory workers. But there was a definite demand for workers on the farms. The settlers realized that with the abundance of cheap fertile land came an opportunity. Many desired to work more

land than could be handled by the members of the family of the farmer. This demand for farm labor was met in two ways: First, by the use of indentured servants, and secondly, by the use of slaves.

Labor in the Northern Colonies.—The northern colonies were settled by liberty loving peoples who came from the sections of England which were farthest from the old feudal ideas. Hence they were not inclined to favor slavery. Moreover, their climate was not suitable for negro slaves, and their industries were not adapted for the use of slave labor. As a result northern colonies developed the use of indentured servants as a means of supplying the demand for controlled manual laborers. These servants were of three classes: Those paying back passage money, or "redemptioners," as they were called; kidnapped persons; and criminals.

Many ambitious young people in England and elsewhere were attracted by the opportunities offered by life in America but were unable to pay their passage to the new land. Hence they agreed to work for a settler for a definite number of years in return for the advance of passage money by this settler. Many of these indentured servants were skilled workers and as a class they were very high-grade individuals. Upon the expiration of their term of service, they became valuable citizens in their communities. Kidnapping was common in England during the colonial period and was very lightly punished when detected. One professional kidnapper is said to have sent 840 persons to America in one year. In England in the year 1670,[4] 10,000 persons were kidnapped. Thus this class of workers became quite common in the colonies and as a whole were valuable workers. The colonists seemed to countenance kidnapping, for they felt that they must have workers for their farms and plantations. Economic considerations were stronger than considerations of kindness towards the kidnapped persons. Crimi-

[4] See Carlton, "History and Problems of Organized Labor," page 17.

nals were sent over from England with the understanding that they were to serve a term of years as indentured servants.

Labor in the Southern Colonies.—The southern colonies early found that slave labor was the most practicable type for the plantations. Hence they encouraged the import of slaves by paying good prices for them. Slaves were able to raise the cotton and tobacco of the southern states, though they were not suitable for northern farming. While slavery was most important in the South, it existed, however, in every one of the colonies. The northern settler forgot his desire for liberty for everyone when he found it profitable to own a slave, and slavery was common in the North just as long as it was economically justified.

In addition to the indentured servants there was available in all the colonies a limited supply of what were known as free laborers, but these were not of much importance. In every community, as is the case today, there were certain people who could not carry on for themselves even such a simple business as was farming in those days. They were not an intellectual class, and in fact had little if any formal education. They were contented, but because of their lack of ambition and because of the relatively poor wages which they received, they were very low in the social scale, and their homes were hovels. Wage earners without property could not vote in the colonies. As early as 1630 an attempt was made to fix the wages of these free laborers by law, but the plan failed after a few years of trial. In a few cases there were in certain lines clubs of workers which had some of the characteristics of the modern trade unions; but they were neither successful nor of much influence.

Labor Unions

The Development of Trade Unions.—Trade unions in the modern sense of the word did not develop in the United States

until about 1825. A few unsuccessful attempts in that year were followed by what is generally considered to be the first successful union organization in Philadelphia in 1827. This was not an organization of a single trade but a union of several workingmen's societies which had been previously organized. Two years later the first successful union was formed in England. In 1828 the Working-Man's Party was formed and entered the national elections, but without success other than the influence exercised by the party in securing passage of several laws of value to the workingmen. Labor influence was successful during this period in securing abolition of imprisonment for debt. This was a much needed reform, for previous to that time, debtors had been cast into prisons, often intolerably bad, until they could discharge a debt. During the period of the 1830's strikes were common, for the workers were coming to see the power which they had as a result of a joint action through their unions. Free schools were pretty generally established during the 40's, often as a direct result of trade union influence. Unions were active in promoting the idea of free homesteads, but did not win success in this endeavor until during the Civil War. By 1836 national unions had been formed by the cordwainers, comb-makers, carpenters, weavers, and printers. Thus previous to the Civil War period, some progress had been made by union organizers in securing joint action of workers for their own benefit. Considerable influence was exerted to secure the passage of humanitarian laws in general and to secure certain laws which the unions themselves desired. But the real period of national organization and the period of great union influence did not come until a number of years after the Civil War.

The Civil War Period.—The war period had a number of definite effects on labor. So many able-bodied workers were in the armies that many trades were forced to depend upon women and children as workers. Convicts were put to work

and immigrants came into the country in considerable numbers, for the comparatively high wages attracted European workers. The war demand for many lines of manufactured goods resulted in the rapid development of large scale industry, and with it the development of its characteristic labor problems. Especially was this true in the iron and woolen lines. After the war there was considerable agitation for the universal 8-hour day. High prices after the war increased living costs and made for trouble between workers and employers. Trades which had not been organized were brought to see the value of united effort of some kind.

Early Labor Organizations.—During the late 60's and during the next decade a number of efforts to form unions were made. For example, the Knights of St. Crispin were organized among the shoemakers with the avowed purpose of opposing the introduction of the new shoe manufacturing machinery. Members were forbidden to teach the shoe making trade to apprentices without the permission of the lodge or union. But like all other efforts to restrict the use of labor saving machinery, the organization was a failure. Opposing the Knights of St. Crispin was the Shoe and Leather Association, composed of employers of shoemakers. Many other employers' associations had their birth in this period.

The Knights of Labor was formed in 1869 to advance the interest of the garment workers, but soon expanded its membership basis to include all workers. The purpose of the organization seems to have been to advance the interests of labor in general. Economic and political reforms were both advocated, but with very little success; for the organization, although it at one time covered the entire country, soon disintegrated. But modern trade unionism was under way, and in 1886 the American Federation of Labor was formed. Something of the nature of this organization and something of the organization and work of its member unions will now be considered.

Trade Unions.—Unions of workers are of two distinct types, trade unions and industrial unions. Trade unions are organized on craft lines. Members all belong to one craft; that is, they practice one trade, such as baking, plumbing, or carpentering. Industrial unions are organized on an industry basis rather than on trade lines. For example, the United Mine Workers of America includes in its membership all workers employed in or around a mine regardless of the type of work done by each.

Trade unions proper date from the period of the 1880's. Beginning with that period, organizations such as the Knights of Labor have given way to trade unions. Local trade unions are the basis of the organization rather than a national organization which appeals to all workers. These unions are organized in local cities or communities by workers employed in one trade. The carpenters are in one union. The compositors are in another, and the pressmen, although engaged in the same industry as the compositors, have their own union. Cooks and bakers have distinct unions, as do waiters and janitors. Thus workers who have a common interest in their common trade and in the conditions under which it is carried on are brought together for joint action. That the idea of unions organized on trade or craft lines has been successful is shown by the estimate that in 1922 there were 36,247 such local trade unions in the United States.

Local and State Unions.—Local trade unions are federated for joint action in a number of ways. Nearly every city has a central trade union body known as the City Central Labor Union or by some such title. This is usually composed of delegates from each of the trade unions in the city. Regular meetings are held. Problems which affect union labor as a whole are discussed, and joint action is suggested to the member unions and to their membership. For example, city centrals are frequently engaged in carrying on campaigns among union

members calculated to encourage the members to demand goods carrying the union label. A general movement for the 8-hour day may be inaugurated by the city central union. Jurisdictional disputes between member unions may be adjusted by the central union; that is, there may be a dispute between the plumbers and the electricians as to which trade should do a certain type of work, and the dispute is referred to the central union for adjustment. In general, the city centrals are of value in aiding the growth of labor unions and in aiding in the solution of labor problems.

State federations of labor exist in every state. They are composed of representatives of all trade unions and of the city central unions. Matters of interest to union labor in general are considered by the state federations in their annual meetings. The state officers serve by working for the solution of these problems. State federations are frequently important in their influence on state legislatures in securing the passage or defeat of certain bills.

National and International Unions.—Locals are also federated into national and international trade unions, but strictly on trade lines; that is, there is a national union of carpenters, railway conductors, packing house employees, etc. In general, the national unions are most powerful, for they control the locals. Locals are organized in many cases by paid organizers employed by the national unions; charters are granted to locals, locals may be suspended by the national unions, and in general the relationships between different locals are controlled by the various national unions. Dues are paid to the locals, but each local pays dues to the national union in its trade. If the electricians of a certain city, for example, are on strike, they receive a certain percentage of their wages as a "strike benefit" from the national union of electricians. Such payments are made from a fund built up by the national for this purpose. Nationals represent the unions in legislative matters before the

federal congress and often supplement the work of the state federations before state legislatures. At a recent date there were 110 national and international unions.

The American Federation of Labor is the general organization which unites the various trade unions into a common whole for the common good. With the exception of a few scattered locals in trades which have no national unions, the membership of the American Federation of Labor is composed of the various national and international unions, about 100 of them belonging, the state and city federations, and a few scattered memberships of other types. Although an impressive list of officers and employees is maintained by the Federation, the most interesting part of its work is its annual convention. Here voting power and representation is based on a certain number of members of the locals belonging to the national unions which compose the direct membership of the federation. At a recent convention of the organization, although the basis of representation was one delegate for each 4,000 members, over 500 delegates were present. The purpose of the federation is to improve the general condition of the workers. To this end, it advocates laws which will improve the economic conditions of union workers, it attempts to influence public opinion in favor of trade union ideals and methods, and it strives to unite the workers in one organization through which they may exert their combined influence. Because of these ideals and purposes, most of the national unions have joined the federation. Prominent exceptions are the four railway brotherhoods, the textile workers, and the clothing workers.

Industrial Unions.—Industrial unions seek to unite all the workers in one industry rather than the workers in one trade. It is believed that in certain industries greater pressure can be exerted on the employers and on the public if all the workers in the industry act together. Hence such organizations as the United Mine Workers, the Western Federation of Miners, and

the International Brewery Workers unite all the workers around a mine or in a brewery into one union regardless of trade lines. If it is desired to strike, the miners' union can call out also the workers in the mine and exert greater pressure than if the miners, the electricians, the firemen, and the pump men were each in separate unions; for were that the case, the electricians or the firemen might have no grievance worth a strike at the time the miners wish to strike. The mine could then be kept free from water and a comparatively small loss would be inflicted on the employers. In other lines of industry it is felt that the cause of all workers is pretty much the same, and hence unions formed are on an industrial rather than on a trade basis. With the exception of the two big miners' unions and certain unions of lumber workers, industrial unionism is not important.

Revolutionary Unionism.—The term "revolutionary unionism" is applied to the efforts of a small number of unions which are dissatisfied with the progress made by trade and industrial unions. They believe that the operation of economic law is too slow, and that the workers will not improve their social and economic wellbeing as rapidly by awaiting the operation of economic laws as they will by "direct action." By this is meant the use of physical force to enforce their demands. They therefore advocate a policy of "sabotage," a term taken from the French word "sabot" meaning shoe. French workers at one time destroyed some delicate machinery by simply removing their wooden shoes and allowing them to run through the machinery, causing great damage. From this start, sabotage has developed a number of forms. For example, harvest hands belonging to the Industrial Workers of the World, the leading revolutionary union, have frequently destroyed threshing machines by running explosives through them with the grain. After a few machines have been destroyed or burned by the workers, the employers have usually been willing to grant

pending demands for higher wages. Saw mill workers, among whom the I. W. W. is strong, have destroyed saws by putting nails into the logs before they were sawed. These are typical examples of direct action. Such action appeals in the main to the wandering, homeless type of workers who believe that all society as now organized is against them and against the working class in general. They cannot see that the interests of both the workers and the employers are best served by cooperation between the two classes and hence believe that any action which will damage the employers will improve their situation. The falsity of such doctrine is evident.

Another outstanding doctrine of revolutionary unionism is that it will some day be possible to form "the one big union" which will be composed of all workers of all classes and which can call a general strike of all workers. Revolutionary unionism believes that after a few days of such a general strike capitalists and employers in general will surrender and turn over all the machinery of production to the workers. Although somewhat similar in some points to socialism, revolutionary unionism differs distinctly in that socialists do not advocate nor practice direct action, but look to political methods to accomplish their desires. Revolutionary unionism has existed for some years in this country and abroad, but is not gaining in strength, nor has it a record of accomplished results to justify its policies. Its membership varies greatly with industrial conditions, for "hard times" result in an increased membership for such unions by increasing the unemployed and the number of workers who can be reached by the doctrines of direct action.

Objects of Organized Labor.—The more conservative unions, those affiliated with the American Federation of Labor, believe that the present plan of economic organization, although not perfect, must be accepted by the workers, and hence base their plans for reform on a capitalistic organization

of society. They believe that through the power of united action which comes as a result of the successful conduct of local unions and the federation of these unions, certain reforms can be accomplished which will better the economic and social position of the workers. A consideration of certain desired reforms will show the objects of organized labor.

One group of reforms advocated by organized labor deals with the conditions under which labor is performed. Unionists have believed for years that the 8-hour day, at least in many industries, is economically justified. Considerable progress has been made in securing it, and although the 8-hour day has not been widely adopted, considerable reduction in the hours of labor has been accomplished. Many employers have found that in their industries as much work can be secured from the employees in 8 hours as in 9 or 10, and that the quality of the work is often better when the length of the working day is shortened. Other industries have not found this to be true. The abolition of night work and of the sweat shops system of labor employment is advocated by unionists. In general, union labor has stood for collective bargaining, that is, a joint agreement between the employer and the unions, as the basis of determining the rate of wage payment. Many unions have actively advocated arbitration rather than the strike as a preferred method of settling difficulties between employers and workers. Union labor has been active in advocating laws requiring proper safety devices and proper sanitary conditions in the factories and other places of work.

The unions have fostered some agitation looking forward to the inauguration of some system whereby labor might share in the management of the enterprises where it is employed. But perhaps the greatest economic object of organized labor has been the desire to raise the general level of wage payment in industry as a whole, and in the organized trades in particular. To this end unions have exerted the force of their organizations and their combined bargaining power which

is the result of organization. In general, it is probably true that they have not succeeded in raising wages above the competitive level; but in certain lines of industry, such as the railroads, and in certain of the coal fields, the public interest in the uninterrupted continuation of a service has been so great that strikes, or even the threat of strikes, have been sufficient to force employers to yield to union demands for higher wages, or for a method of calculation of wage payment which has oftentimes resulted in higher wage payments. In certain lines where, because of the overabundance of labor, wages were lower than was economically justified, union action has resulted in raising the level of wages. Greater success has attended the efforts of unions in the economic field just mentioned than in their efforts to secure legal and political reforms.

Labor unions have taken an active lead in securing certain reforms by means of political action. Unions early advocated woman suffrage. The initiative and referendum and the recall of judges have been pushed at times by unions. As a rule unions have advocated a further extension of government ownership of public utilities. In a recent political campaign many of the trade unions supported a party which had as one of its objects limitation on the power of the Supreme Court to nullify the action of Congress by declaring laws passed by Congress to be unconstitutional. Some of the so-called political desires of union labor have been accomplished; some may be in the future; but some changes advocated are probably neither sound nor desirable.

Unions have sought to accomplish certain other reforms by direct legal action. For example, they have long advocated limitation of the powers of the courts to issue injunctions in labor disputes. They have taken the lead in asking for laws which would limit the employment of women and children in industry and have asked for more adequate laws governing factory inspections. Such social reforms as a general system of old age pensions, extension of our system of free education for the

masses, public play grounds, etc., have had the sympathy and often the active support of trade unions and their members.

Methods of Trade Unions.—Certain definite policies have been advocated by trade unions in the belief that their practice will improve the condition of the workers. In the early days of unionism definite opposition to the introduction of labor saving machinery was common. It was believed that the use of such machinery reduced the demand for skilled workers and therefore weakened the position of the workers. But little such opposition is practiced now, for unions have come to see that in many cases labor saving machinery increases rather than decreases the demand for unionists. For example, compositors definitely opposed the introduction of type setting machines, but now favor their use; for by reducing the cost of newspaper production papers have grown both in size and in circulation. Advertising and other hand work have increased in amount so greatly that there is now a greater demand for compositors than before the introduction of the machines.

The use of skilled workers as operators of the machines has thus maintained the demand for their services. In general, trade unions have come to see that opposition to the use of labor saving machinery is a short-sighted policy and one that is certain to fail; for unions cannot long delay the operation of economic laws.

Many unions have definitely limited the number of apprentices who can be taught trades by the journeymen workers. Often it is provided that in the territory of a certain local union, only one apprentice to every five or every ten journeymen may be employed. In this way an artificial limitation on the number of journeymen workers is set up, a limitation which has been very effective in certain trades. Operation of the law of supply and demand raises the wages of the skilled workers as the result of the success of this policy. Certain trades, however, have never believed in the wisdom of this

policy, and other trades are not so fully organized as to make limitation of apprentices feasible; for only a certain standard of proficiency is demanded as the basis for admission to the union rather than a requirement that the applicant must have served an apprenticeship.

Restriction of Output.—Many unions have advocated and practiced restriction of output. By this is meant a definite limitation on the amount of work which may be done in a certain day, or definite restrictions on the method of doing work. For example, it is probably true that many bricklayers limit their day's work to laying only a certain number of bricks. Bricklayers have also insisted on doing certain kinds of work, such as washing down the wall after the bricks have been laid, work that could be done as well by apprentices or even by unskilled workers. Plumbers at one time forbade the use of bicycles or automobiles in going from one job to another and set limits on the amount of pipe cutting which can be done in the shop, because it takes longer to cut the pipe out on the job and hence makes more work for plumbers. Often unionists who have acted as "pace setters" when paid to do so by the employer have been fined by the union for their excessive speed. Cigar makers have refused membership in their union to applicants who use a machine for making cigars. The pressmen's union has established standards requiring the use of a certain number of journeymen pressmen on each type of press. Other unions have opposed splitting up of skilled work on the ground that the integral parts of a job might each be performed by unskilled workers.

Trade unions have been generally criticized for all attempts to limit or restrict output on the ground that restrictions increase the cost of the work and therefore increase the cost to the general public. It has been argued that the unionists are short-sighted inasmuch as they suffer with other members of the general public. For example, when the cost of a new build-

ing is increased by restriction of output of the different building trades, rents must be increased in the building. This increases the cost of living no matter whether the building is a residence or an apartment, a store building or even an office building. Unionists admit this, but claim that the benefit to them is greater than the cost. They also believe that restriction of output can be defended on the ground that the health of the workers is damaged by rapid work. This is true if an excessive rate of speed is required, but this is not usually the case. Unionists also believe that there is a certain amount of work to be done and that if this work is done slowly, it will last longer. This is probably a false doctrine. They also believe that speed and increased output in the case of piece workers is usually met by a reduction in the piece rate. Although this may have been true in the past, it is no longer common practice.

The Open vs. the Closed Shop.—Unions have consistently advocated a closed shop policy; that is, they believe that only union workers should be employed on skilled work. In thousands of cases the union has been strong enough to force employers to adopt a closed shop policy and to refuse employment to any skilled worker who is not a member of a union. The term "open shop" refers to a shop in which there is no discrimination between union and non-union workers. Unions advocate a closed shop policy on the ground that union efforts have resulted in betterment of conditions of employment and that it is unfair to allow non-unionists, men who neither pay union dues nor assist the unions in any way in improving conditions, to secure the benefits which have been fought for by the unions. They also believe that the closed shop is essential if collective bargaining is to be successful. If the trade union is open to all applicants, there is some justice in these arguments. But often workers who upon seeking employment have been met with the statement that they must join the union before they can be employed, for one reason or another have been

refused membership in the union. The closed shop is hard to justify when the union is closed to capable applicants.

Another type of closed shop is one that is closed to union men by the policy of the employers. Certain employers feel that they do not wish unions to be in a position to dictate to them, and hence they hinder organization of unions by refusing to employ union members and by discharging capable employees who join the union of their trade. Spies have often been used by employers to discover employees who either belong to unions secretly or have sympathy with union ideals. An allied union policy in fully unionized cities is the refusal of the members of the building trades, for example, to work on a building any part of which has been or is being constructed by non-union workers. This whole problem, the open vs. the closed shop, is still unsettled, and is one of the important points of difference between labor unionists and their employers.

The Strike.—The use of the strike as a weapon against employers has been a common practice of unions in the United States and in other countries as well. Unionists profess to believe that in many cases they are unable to exert the pressure necessary to force employers to comply with just demands in any way other than by striking. Hence a strike is called by union officials and an attempt is made to force the employer to grant their demands. These demands may be for higher wages, the most common cause of strikes, for recognition of the union, for shorter hours, for improved conditions of work, or for a number of other objects. Employers usually suffer great inconvenience or actual loss when strikes are called. If an attempt is made to operate the plant, factory, store, theater, barber shop, or other business by new employees hired to replace the strikers, the workers secured are rarely or never as efficient as those they have replaced. In some industries it takes months to bring a new force to the efficiency of the old. If the employer chooses to close his place of business

and wait until the workers are starved into submission, as is often the case, certain loss is incurred by the shut down. When new employees or professional strike breakers are brought in, the strikers frequently "picket" the place of business in an attempt to intimidate the new workers or to cause the public to refuse to patronize the employer whose men are on strike. This latter method is often used in the case of striking employees of theaters, barber shops, restaurants, etc., where daily patronage is essential. The strikers as well as the employers lose money when a strike is called. Even though they eventually win the strike and their demands are granted, they have lost their income during the period of the strike, or have been forced to find other work, often not as well paid as their former positions. If the strike is lost, they must continue on other types of work, or perhaps go back to the old jobs at smaller wages than they received before. In lines of industry which use the seniority rule and those which provide for retirement allowances, strikers risk a great deal when they decide to strike; for even though after losing the strike, they may be rehired, their seniority and retirement credit have been lost.

The general public loses when a strike is called. Especially is this true when the strike is in a public utility, or in such essential industries as the mining of coal or the supplying of fresh milk to a city. So great is the public's interest in strikes affecting such industries that serious consideration has been given to proposed laws which would take away the right to strike in industries in which the cessation of work causes great inconvenience or actual hardship to the general public.

Certain figures show something of the economic loss involved in strikes. In Great Britain strikes in the 17 years between 1905 and 1921 caused an estimated loss of wages of about $325,000,000. The loss caused by failure to produce during the strike and the inconvenience to other industries was perhaps several times as great. In the United States from 1880 to 1900 strikes took place in 117,000 establishments and

caused loss of employment to about 6,000,000 workers. Other unions gave financial assistance to strikers during that period to the extent of about $17,000,000. In the anthracite coal strike of 1902 over $25,000,000 in wages was lost, while it was estimated that the receipts of coal companies were decreased by $46,100,000, and the railroads lost about $28,000,000.[5]

The Lockout.—The lockout is just the opposite of the strike in that the employer decides to force his employees to submit to his demands by suspending their employment until such time as they are willing to give in. About 100 lockouts a year take place in this country. In general, they are not of as great public interest as are strikes. The blacklist is a device used by the employer to prevent union agitators or undesirables of various sorts from securing employment. Members of employers' associations keep such lists and are able to make it very hard for such persons to secure employment. The threat of being placed on such a list is a very effective weapon in the employer's control of his men. The boycott is the employees' answer to the lockout, to the blacklist, and to other weapons of the employers. Workers refuse to buy the goods of certain manufacturers because they have been boycotted. Unionists of all trades often refuse to patronize a theater which is having a dispute with its musicians or a newspaper whose compositors are on strike. Workers have been known to withdraw their patronage from a store or restaurant which is classified as "unfair to union labor." Such methods are often very effective in aiding employees in their disputes.

It should not be inferred that strikes and boycotts are used only by trade and industrial unions. Strikes sometimes take place in industries in which there is no organization whatever on the part of the workers; but because of the lack of organization, it is difficult for such workers to act together in calling a strike. Of course when a sufficient grievance arises, joint

[5] Watkins, "Introduction to the Study of Labor Problems," page 308.

action quickly develops even among low types of labor. But in order to carry out the action and conduct a strike or boycott at least a temporary union of the workers must usually be formed. The greater number of strikes, however, take place in the trades and industries which are highly unionized.

It is generally admitted that strikes are bad. But until some other system of settling labor disputes is successfully developed they seem to be inevitable. Both workers and employers admit that strikes are not a sensible method of settling differences, but in many cases either one side or the other, or perhaps both, is unwilling to settle the difference in any other way. Perhaps the most promising plan for abolishing strikes is for both parties to agree to arbitrate all differences. An impartial board is agreed on and the differences are submitted with evidence from both sides. Both sides agree to abide by the decision of the arbitration board. This plan is used to a considerable extent but frequently fails because one side or the other refuses to abide by the decision of the board. Collective bargaining between employers and employees is in use in many industries. Not only do bargains reached by an agreement of both parties cover the payment of wages and the conditions of work, but they also provide for arbitration of disputes in many cases. Public sentiment frowns on strikes, lockouts, boycotts, etc., and it may be that in the future some better and some more civilized method of settling labor disputes may be developed.

Labor Legislation

Reasons for Labor Legislation.—Because of the activity of organized labor in securing legislation helpful to the economic and social well-being of the workers as a whole, it is desirable to consider some of the principal types of laws which come under this head.

Ever since the coming of the factory system there has been a feeling that society as a whole, through its law making

agents, is responsible for giving a certain measure of protection to the workers. It has been felt that because of their educational limitations and because of the fact that they are not in a strong economic position, legal action to regulate certain of the relationships between employers and employees is justified. It has also been felt that society as a whole is interested in the conditions under which workers are employed. If their health is prematurely broken down, they often become public charges, especially if wages have been so low as to make savings impossible. Other justification of labor legislation will be apparent in connection with the mention of certain specific acts of legislation. Development of the idea of legal control of the relations between employer and employees has been progressive. The public has come to sanction certain control over relationships which it did not feel were public business a few year ago. Laws regulating child labor are a case in point.

Examples of Labor Legislation.—As early as 1802 English laws regulated the labor of all children employed in the cotton mills by forbidding the employment of children under 9 years of age, by limiting the hours of work for children under 13 to 8 hours a day, and by providing that those under 18 could not work over 12 hours a day. But it was not until 1842 that children working in mines were given any protection. Child labor legislation has been backward in the United States and has been in the main limited to state legislation. The Federal Congress has twice passed laws regulating the work of children in industries whose products enter interstate commerce, but in both cases the legislation was declared to be unconstitutional. An amendment to the Federal Constitution which would give Congress power to regulate child labor is now before the states for ratification. The desirability of this amendment grows out of the fact that state laws governing the conditions of child labor differ greatly in their provisions. In certain states manufacturing interests have been strong

enough to prevent the passage of laws which would give child workers the measure of protection to which they are entitled. The undesirability of child labor which not only robs the child of his birthright of a happy childhood but stunts him physically and lessens his educational development, is apparent to thinking people and is now coming to have general recognition.

Legislation governing the conditions under which women may be employed has been passed in nearly every state. Limitation of the hours of work, prohibition of night work, regulation of conditions under which work can be done in the home, provisions for seats for women workers, the securing of mothers' pensions, and the establishment of minimum wages for women workers, are some of the phases of legislation governing the work of women.

Some progress has been made in securing the passage of laws providing for the determination of a minimum wage for certain industries. In general, the laws have been limited to industries where few, if any, unions exist. Wage boards by industries are set up by law to determine the minimum living wage for workers in any one industry. The decision of the board is given the force of law, and all employers must pay at least the amount determined by the board as the minimum.

A group of laws has been passed to regulate conditions under which work is performed. Laws providing that certain machines must have safety guards; devices to stop machines if the hand or foot of the worker becomes caught are required in some cases; still another law provides that elevators must have automatic clutches to prevent falling. Certain minimum requirements for heating, lighting, and ventilating factories, offices, and stores are sometimes set up by laws, and provision is made for inspection to see that the law is complied with. Factory inspectors are given power over fire hazards. Proper seats, toilets, and dressing rooms are required by some state laws.

In general, labor legislation which has been passed has jus-

tified itself by its operation. Opposition to such laws usually comes from a minority of employers but until there is some way of forcing this minority to meet the higher standards aimed at by the law, forward looking employers cannot always put into operation the provisions which they themselves believe to be justified. Hence they sometimes take the lead in securing the passage of laws which will force the other type of employer to get on an even competitive basis with them by establishing legal standards to govern relations between employer and employees. Unions have in general been active in securing passage of the type of laws above described. Social workers of various kinds have also been of great aid to the worker by securing legal protection for him in certain of his relationships.

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CHAPTER XXII

THE DEVELOPMENT OF TRANSPORTATION

The Place of Transportation.—In an earlier chapter it was shown that present-day industrial specialization can exist only because of developed methods of transportation. It is possible to have regional and personal specialization of production only because efficient transportation systems make it possible to distribute the products of specialization over a wide area. The natural resources of one section are made available to needy regions because of cheap transportation. Market centers as now organized have followed the development of transportation. Social and political solidarity has followed the exchange of ideas made possible by modern mail services and by the transfer of ideas by use of the telephone, the telegraph and the radio. Since transportation systems play such an important part in the life of modern peoples, some consideration of their development may well precede a description of their organization and methods of functioning.

Early Methods of Transportation

History of Highways.—Perhaps the oldest method of commercial transportation is the carrying of a pack on the back of a bearer, but it was not until man had become sufficiently civilized to draw on regions at some distance for his needs that even that crude form of transportation was needed. Animal power was utilized very early and was the first step in advance over the pack method of carrying burdens. Caravans of camels played an important part in the life of the western Asiatic peoples, perhaps the first nations to become sufficiently civilized to demand the products of distant regions. Frankincense and

myrrh from Arabia, shawls from Cashmere, cloths and carpets from Babylon, leather, tin, gold, silver, and Egyptian grain were common articles of commerce which were transported by camel caravans. Frequent references to roads and highways in the Old Testament show that their importance was even then recognized. The control of the famous highway across Palestine and Arabia to Persia and later to India, has been the cause of many wars, and was a factor aiding in bringing on the recent World War.[1]

Following the use of animal power for moving burdens, the next great advance was the idea of the wheel. Just how primitive man developed or discovered the possibilities of the wheel is unknown, but its use was delayed for many centuries. Decades passed after the wheel was discovered before it was found that it is possible to use two wheels on a fixed axle. One author has said that next to the use of fire, man's greatest discovery has been the use of the wheel.[2] Any consideration of the importance of wheeled vehicles in present-day life will justify this assertion. Perfection of the wheel forced the building of bridges, for the single log was replaced by two logs thrown across a stream, and still later by a floored structure of some sort. Suspension bridges were used very early and the arch type of bridge was given to the world by the Roman road builders. The final step has been in the application of mechanical power to wheeled vehicles, and the use of the steam engine, the internal combustion engine, and electricity to drive the wheels of modern carriages of all sorts.

Greece lacked good roads. There was comparatively little communication between the different parts of the nation and little exchange of either products or ideas. Athens and Sparta, for example, were two radically different cities with little in common. The resulting lack of national solidarity was a contributing cause to the failure of Greece to maintain her position

[1] Chatburn, "Highways and Highway Transportation," page 20.
[2] Miller, "Railway Transportation," page 26.

in the ancient world. Rome, with her efficient system of roads, was a direct contrast. These roads, although built mainly for military reasons, made it possible for both commodities and ideas to be exchanged between the different parts of the empire. Good roads made it comparatively easy for Roman citizens to travel to Rome, and to feel that they were a part of a great empire. A system of at least 20 important roads centered at Rome, many of which were paved with either flat stones or with a sort of macadam. The Appian Way—the most famous of Roman roads—was still in use 800 years after it was built. Traces of Roman roads in a good state of preservation have been found in many parts of Europe and of North Africa at comparatively recent dates. Products of distant countries brought to Rome on good highways helped her economic position immeasurably. But with the decline of Rome came a cessation of road building, and the Dark Ages were marked by a lack of means of communication between the different peoples of Europe.

Early Water Transportation.—Perhaps the first form of water transportation was the use by some primitive man of a floating log. Finding that the log could be propelled by the current, he used it first, probably, as a means of personal transportation. Some time later, probably, it was discovered that it was possible to tie a number of logs together with vines of some sort and form a crude raft upon which products could be transported. Probably the first products transported were the fruits of the chase, rather than of cultivation.

The necessity for some method of propelling a single log or a raft of logs against the current was later met by the use of the push pole and still later by the improved form of the push pole, the paddle. The first rudders were but fixed paddles. Discovery that the wind would aid in pushing a raft was perhaps made by noticing that a strong wind blowing against a person standing erect on the raft aided in navigation. Develop-

ment of sails followed, but extended over a considerable number of centuries. Use of a hollow log gave the idea of a dugout canoe and still later that of the birch bark canoe, the favorite means of water transportation of the American Indians. Arabians discovered the compass and thus allowed navigators to venture out of sight of land. By the time of the Norsemen, plank vessels had come into use. The development of these crude water vessels into the modern passenger and freight carriers has been but a series of steady steps, each one coming in the main as the necessity for it was realized.

Early American Transportation.—Early Americans used the horse and the birch bark canoe for transportation. Peruvian Indians had a good system of hard roads in use at the time of their conquest. Aqueducts and suspension bridges were used, and runners were kept in barracks every 5 miles along the road for the transport of government messages. The North American Indians, however, had made little progress in the use of roads. Early colonists were not able to build good roads, and in fact found it almost impossible to use wheeled vehicles of any kind. Prior to the Revolutionary War, improved roads of a sort connected the principal cities, but so poor was the Boston to New York road that it took the stagecoach four days to make the journey.

Much use was made of waterways by means of canoes and rafts, but frequent portages delayed the speed of transportation and increased its cost to such a point that only the most valuable and most highly concentrated articles could be moved. About 1755 Daniel Boone, with the backing of Carolina land speculators, marked "Boone's Trace" from North Carolina to Kentucky. This was in many places only a blazed trail, but in sections trees which interfered with passage were removed. This trail became an important factor in the settlement of Kentucky. Marquette, about 1670, blazed a trail through Wisconsin to the Mississippi River, and still later Lewis and

Clark showed that it was possible to go overland to the Pacific Northwest. Many settlers went to the West by following the Mohawk River for a distance and then continuing west to Lake Erie and along its southern shore to Ohio and Indiana. At least three routes to the West led through Pittsburgh. Many settlers followed the Cumberland Gap route to Louisville and there dispersed to their destinations.

Settlers in the West found it difficult to deliver their produce to eastern buyers. Corn could be transported only in the form of either live stock or whiskey. One horse could carry whiskey to the value of $16 but corn worth only about 18 cents. Cattle and even hogs were driven from Ohio to Buffalo and sometimes to cities even farther east. Bacon and lard could stand the cost of overland transportation. As an example of the costs of overland transportation it may be cited that the rate on a ton of freight from the Missouri River to Denver was at one time $100 and the passenger fare, by stage coach, was $175.[3]

Turnpikes.—With the settlement of the western territories came the demand for roads to connect them with the eastern markets. A higher standard of living which came with prosperous conditions after the Revolutionary War brought a demand for better facilities for personal travel and more efficient methods for the transportation of commodities. In 1792 the first scientifically constructed road in this country was built from Philadelphia to Lancaster, Pennsylvania, scientific in that it was paved with stones which "would pass a two-inch ring." In order to meet the cost of the road the private company which built it was forced to erect toll gates at regular intervals and charge for the use of the road just as is done in the case of certain toll bridges today. Roads of this class came to be known as "turnpikes" and soon became popular. By 1828 there were over 3,000 miles of turnpike in Pennsylvania alone,

[3] Miller, "Railway Transportation," page 30.

and over $8,000,000, a very large sum at that time, had been expended in building the roads. Good roads demanded good bridges. The demand was met by the erection of some toll bridges and by some which were paid for by the states. The public interest in good roads was soon seen to be so great that state appropriations began to be made for road building. Free roads and free canals were both demanded and the demand was met in part. The turnpike era passed, however, with the coming of the railroad, for most of the freight traffic which was necessary for their support was taken over by the railroads. Lack of income caused the companies to neglect repair of the turnpikes, a situation which eventually resulted in the different states taking them over. The centering of attention on rail and water transportation caused the neglect of roads, and little attempt was made to maintain country roads in good condition until after the coming of the bicycle about 1890 and the automobile about 1900.

Railroad Development.—Students of economic history agree that the most primitive form of the idea of a railroad is found in the old custom of placing sticks or planks in the ruts of unimproved roads to make the passage of heavy loads somewhat easier. As time passed it became customary to set the planks in such a way as to give them greater rigidity, and still later they were placed on edge. Cross ties for braces were used and later strap iron was placed on the timbers to reduce the wear. These iron straps have evolved into the modern steel rail. The idea of setting these rude rails in such a way as to allow trains to turn around a curve was a distinct step in advance and did not come for some years after the first successful locomotive was invented.

The first successful railroad was operated in England in 1820. The state of Pennsylvania soon copied the idea, adding to it by building a line of track and allowing some 20 companies to run their cars over this state-owned track. By

1826 the present New York Central System had been started by the grant of a charter to the Mohawk and Hudson Railroad, which road was operating trains by 1831. The B. and O. was operating a common carrier by 1830, being the first road in the world so to operate. The first American built locomotive was completed in 1830. It weighed but one ton and was called the Tom Thumb, in accordance with the early custom of giving locomotives names rather than numbers.

Railroads had spread as far west as Ohio by 1840, for a project to connect Sandusky with the Ohio River by rail had gone so far as to result in the completion of 30 miles of rail track by that date. In all there were over 2,700 miles of track by 1840, and in 1848 the first road was started west from Chicago. It ran to Galena, Illinois, and is now a part of the Illinois Central road. Over 7,000 miles were in use by 1850, and by 1921 over 250,000 miles of track were in use in the United States alone. Perhaps 150,000 miles of supplementary and double tracking were also in use.[4]

Street cars are an important agency of transportation, for about one half of the population of the United States lives in cities. The decade of 1850-60 saw the beginning of horse-drawn street cars. Cable cars were replacing horse cars when electricity was introduced as a motive force about 1885. Electric locomotives have now replaced steam locomotives on a few railroads, and are used in long tunnels by many roads.

Waterway Development.—Although the first canal in the United States—one built for carrying stone a short distance—had been built in 1750, the main era of canal building did not begin in this country until about 1810. The most important canal—the Erie Canal—was built primarily to give New York City a chance at the western produce which was being shipped from Philadelphia because that city was the terminus of an extensive system of turnpikes to the west. The completion of

[4] Miller, "Railway Transportation," page 228.

the canal in 1825 was followed by tremendous use of its facilities and by the upbuilding not only of New York, but of such cities as Albany, Rochester, and Buffalo. At one time there were over 1,000 miles of canal in operation in Pennsylvania, and in Ohio two canals totaled about 400 miles of new construction and the use of nearly 1,000 miles of rivers. All in all, the canal period saw the building of about 4,400 miles of canals at a cost of about $214,000,000. But with the coming of the railroads the canals lost importance and with a few exceptions have little, if any, commercial value today. There is, however, considerable reason to believe that in the future certain important natural waterways will be connected by canals. Examples are a possible canal from Lake Erie to the Ohio and another connecting the Great Lakes and the Mississippi River.

Canals already in operation which connect important waterways must not be overlooked, for such projects as the Sault Ste. Marie Canal, the Welland Canal, the Cape Cod Canal, and the Panama and Suez Canals are very important when their service to transportation is considered.

Use of rivers for navigation dates from the days of the log raft, but was of little importance in this country prior to Fulton's demonstration of the possibility of the steamboat in 1807. This invention made river transportation perhaps the most important method of moving commodities for a time just prior to the Civil War. By 1830 all the navigable branches of the Mississippi were covered by steamboats and many packet lines were on the river itself. New Orleans was built up so rapidly by the great flood of produce which came to that city for transshipment that in 1840 it was the third city in size in the country. Many fine passenger boats were placed in operation for river traffic, notably those on the Hudson River. But today passenger traffic on the rivers is of little importance and shows no tendency to increase. There is, however, a distinct and important tendency for the amount of freight carried on the

rivers to increase because of the use of modern barges in recent years.

Relation of Good Roads to Modern Transportation

The Good Roads Idea.—With the passing of turnpikes came a long period during which little attention was paid to country roads. It was felt that rail and water transportation were the only important forms of transportation, for the economic loss of hauling produce over dirt roads was not realized. With the invention of the safety bicycle about 1890 came a craze for bicycling. Thousands of bicycles appeared on the country roads. Clubs were formed to further the interests of cyclists. One of their principal activities was an attempt to create sentiment favoring improved country roads and ultimately hard roads.

But not until a few years after the automobile had first been used in this country, about 1900, did this sentiment become effective. Automobilists, because of their desire for improved country roads, began to study the problem. They were able to show something of the loss which was suffered by farmers and others because of the poor condition of the roads. Not only was attention centered on the problem of securing better roads, but a change in methods of construction and repair of country roads was advocated. In most sections of the country little system had been used in road work. Farmers repaired the roads adjacent to their farms, each one using methods which appeared to him to be good. Not only was there lack of uniformity, but much of the work done was so unintelligent that it would have been better left undone.

Realization of this condition led to the definite planning of road work by men who understood their business and who could build and repair roads which would last. Invention of the "road drag" by a Missouri farmer about 1910 supplied a tool which could be used to keep dirt roads in good condition

after they had been properly constructed. State and federal governments have aided in the construction of the principal highways and have thus reduced the tax burden of the individual farmers living adjacent to highways used by through traffic. Use of the gasoline tax in several states has made it possible to build much hard road, for a part of the cost is met by means of this tax, levied against the persons who receive much of the benefit from good roads. Improvements in methods of building asphalt, gravel, and macadam roads have stimulated the use of these materials. The plentiful supply of cheap cement and the knowledge of how to use this material for roads have made it possible to build thousands of miles of hard road that could not otherwise have been constructed.

Use of Good Roads.—Farmers receive a direct benefit from good roads. Haulage of a farm product over poor roads increases the cost by increasing the time and decreasing the load which can be hauled. Wagons wear out more rapidly on poor roads than on good ones. When roads are impassable, as is often the case when dependence is placed on unimproved dirt roads, produce cannot be taken to market even though the market price is attractive. Millions have been lost by farmers in the past for this reason alone. Fruit cannot be delivered to its market in the freshest condition when roads are poor. Milk is delayed in reaching the creamery. Fruit is bruised and eggs are broken. The loss of time in marketing perishables when roads are poor is very important because of the fact that the peak load of work on the farm often coincides with the time of their marketing. These and other factors have led forward-looking farmers to favor taxes to be used for improved roads.

Improved roads are also of definite social value, for they make it possible for farm folk to meet together in social and religious gatherings more easily than when roads are poor. Some of the isolation of farm life is removed when it is pos-

sible for farmers to get to the larger towns conveniently. One of the most important contributions of the Farm Bureau movement has been the fostering of community gatherings to discuss farmers' problems. Such gatherings are difficult when the uncertainty of being able to attend meetings is always present because of the possibility of bad roads. Farmers have been able to improve their marketing methods through cooperative marketing in many sections. Such cooperation is fostered by a community spirit which grows out of community gatherings. Good roads have promoted the consolidation of rural schools and the higher standards of education which have resulted from these consolidations.[5] Rural free delivery of mail has been greatly aided by improved roads. City dwellers are able to get out into the country more frequently when roads are improved, a circumstance which gives them more sympathy with the problems of the farmer, as well as allowing them the benefits of a ride in the fresh country air.

Good roads and the increased use of the automobile by farmers have combined to modify the distribution of manufactured goods to the farmers. The old-style country cross-roads store existed only because it was impossible for the farmer to drive to the larger town or city for his purchases. It existed for his convenience and depended on its location to give it business. But with the coming of good roads and good automobiles the cross-roads store has either entirely disappeared or carries only the few staples which can be purchased just as conveniently in the small town as in the larger city. Shopping goods are no longer carried, for the farmers and small town dwellers find it easy to go to the larger centers for the purchase of such goods. This movement has been strengthened by the fact that country people know the styles prevalent in the cities, for not only do they go to the cities but rural free delivery has made it possible for them to read the same newspapers and magazines which are read by city people.

[5] About 500,000 students are transported daily.

Automotive Passenger Transportation.—Certain aspects of passenger transportation by automobile and busses are of business importance. For example, although it has been estimated that 80 per cent of all cars purchased are used principally for pleasure, practically all cars have occasional business use. When a business or professional man makes a trip to a neighboring city on business, his car is used as a business agency. When a farmer uses his car for a trip to town to secure late market information or to sell some of his crop, his car is part of the business equipment of the nation. Salesmen are being provided with cars to an increasing extent because of the time which can be saved by their use. Taxi-cabs are part of the business equipment of every city of importance. By their use business men save valuable time and energy in getting from place to place. Some companies have found it more desirable to allow their salesmen to use taxi-cabs than to provide them with cars of their own. So-called jitney or bus lines, although not of consequence as a primary agency of transportation for most cities, are of importance because they can be used to supplement regular street car and interurban lines. They can be run on streets where the volume of traffic does not justify an electric line, and to partially developed suburbs until such time as regular street cars reach the addition. Some lines are used to carry passengers further into the country than it is practicable for interurbans to run.

Bus Lines.—Regular bus lines operate between cities in all sections of the country. A recent estimate states that about 50,000 busses are now in regular operation for this kind of traffic, and that together with busses operating inside of cities they carry about a billion passengers a year. Inter-city bus business has developed for certain definite reasons. First, busses can operate more frequently than can either steam or electric trains, because a bus can be run for fewer passengers per trip than either of the other kinds of competition. Second,

because of the free use of public roads which has been granted bus lines they can compete with railroads and interurbans on a price basis. If they can meet the rates of the other kinds of transportation, busses are certain to get a part of the business; for it is frequently more convenient for passengers to reach a bus line than to go to a passenger station. Especially is this true when busses stop on signal at any street corner. Passengers can be picked up or dropped midway between cities or towns. Third, busses are certain to get business because they can establish lines between towns not connected by railroads or interurbans, since they can operate with a smaller number of passengers per year than can the other types of transportation. A fourth reason for the use of busses is the antagonism towards the railroads, however unsound its basis, which is present in the minds of certain people.

A recent tendency in bus transportation, both within cities and between cities, is for the interurbans, and in some cases the steam lines, to operate bus lines themselves. Often busses are run in competition with their own electric trains by interurban companies.[6] In one case a prominent Ohio interurban company has established the most modern type of safety busses to care for local traffic along its line between two considerable cities and is operating most of its interurban cars as express trains between the two cities. Thus it is possible for the company to retain local business for itself without stopping its electric trains at frequent intervals. In at least one of the large cities the local street car line is operating regular busses in competition with its own surface cars to accommodate the rather large number of customers who prefer to ride in busses rather than in the somewhat unsanitary and often uncomfortable street cars, and those who prefer the safety of stops at the curb. It is felt that bus transportation in the future will be definitely organized by responsible companies which will render reliable

[6] 115 electric railway companies (1924) operate 1,110 busses.

service, and that it will in the main supplement rather than displace steam, interurban, and street car lines.

Truck Transportation.—Motor trucks have so largely displaced horse-drawn wagons in cities that they are now accepted as a commonplace. With the possible exception of milk, bread, and ice delivery, trucks seem to be best fitted for city delivery purposes. But inter-city transportation has not yet developed as a clear field for truck transportation, although truck lines are becoming increasingly common. In fact, truck lines are usually formed wherever country roads are in good condition the year round. Certain advantages of competition have aided trucks in gaining a foothold in competition with steam railroads and interurban lines.

Up to perhaps 50 miles the truck has a definite cost advantage over its competitors, for it can load and unload at the door of its customer and thus eliminate the cost of an extra loading and hauling to the freight terminal of a steam or electric line. Within reasonable distances truck lines deliver more quickly than do their competitors, and the certainty of delivery has caused many wholesale houses to use trucks in preference to other methods of delivery for orders which have been promised by their salesmen for a definite date. Like passenger busses, truck lines have free use of the roadways, and thus make large savings which are not open to their competitors. However, it is probable that the present rather wide-spread feeling that truck lines, and perhaps bus lines, should be taxed in some special manner to compensate for their destructive effect on good roads, will culminate in legislation which will reduce this advantage, at least in part. This feeling has already been expressed in definite limits on truck loads which have been set by different states, counties, and municipalities.

Motor trucks have proved to be particularly valuable in hauling milk from country points into our larger cities. So

far has this development gone that it is estimated that Cincinnati receives 97 per cent of its milk supply by motor truck, Atlanta 90 per cent, and Indianapolis 80 per cent. Use of glass-lined tanks eliminates churning en route, for milk will not churn unless its temperature is raised. These tanks are so successful that on a trial trip a tank of milk was carried from Pittsburgh to Milwaukee in 60 hours in perfect condition and with an increase in temperature of only five degrees. This trial trip is significant in that it illustrates the possibility of reaching further into the country for the milk supply of our larger cities. Motor trucks and glass lined railway cars will be a big factor in future milk supply.

Trucks have another special but important use in the transportation of live stock. Formerly hogs and cattle were either driven to the shipping station or hauled in slow moving horse-drawn wagons. In either case a considerable amount of shrinkage of weight was certain to occur. Now trucks either take the live stock to the shipping station without delay in the cool of the morning, or take it directly to the stockyards at slaughtering points if the distance is not over 50 miles or so. In 1923, 64,000 cattle and 121,000 hogs were delivered directly to the stockyards of Kansas City either by the trucks of the farmers or by trucking companies. Use of the truck for this purpose justifies the required investment for ownership of a truck by the average farmer and makes its use possible for many other farm uses.

Trucks are used largely in hauling to market petroleum products both crude and refined. About 75 per cent of the producers of lead, zinc and copper use trucks for hauling either supplies or ore. The output of about 3,300 coal mines now goes to the railroad by motor truck.[7]

Operation of Trucks by Railroads.—Railroads are making definite use of trucks. For example, a short time ago the

[7] Address of F. W. Fenn at Yale University, February 15, 1923.

Pennsylvania Railroad found that its less-than-carload business from shipping points in the eastern shore of Maryland territory had virtually disappeared. Investigation showed that motor trucks using hard roads which extended to 98 per cent of the shipping points of that section, were rapidly taking over this business. The Pennsylvania at once inaugurated a thorough and well regulated truck service of its own, replacing a part of its way-freights by truck. As a result it has been able to hold the business which would have gone to the truck lines, for shippers prefer to deal with a reliable railroad company rather than with a possibly less responsible private truck operator. In addition to holding its business, the railroad has been enabled to increase the prosperity of its territory by allowing fruit and vegetable growers to put their produce on the market more rapidly and hence in better condition than when trains were used. Markets other than Baltimore have been opened to these growers because of the greater flexibility of truck routes. The New York Central is using trucks to transfer L. C. L. freight from its freight house to the Pennsylvania terminal in Buffalo. Although the distance is short, it had been necessary to use freight cars and locomotives to transfer comparatively small amounts of freight. Use of trucks for this transfer saved the New York Central, not only a large amount of cash but the use of over 800 box cars a month. Trucks are rapidly being adopted for this use—transfer between terminals—in other cities, notably Cincinnati and St. Louis. The railroads mentioned above, as well as others, are finding that truck lines can be economically substituted for many way-freights, especially on divisions adjacent to large cities. Their use will make store door collection and delivery, a probable development of the future, easier of accomplishment. At least one road is experimenting with demountable bodies which can be taken from trucks, placed on flat cars, hauled by rail to their destination, and easily transferred to

other trucks. This may be the solution of store door collection and delivery.[8]

Problems of Truck and Passenger Transportation.—The problems of adequate terminals for motor transportation have not yet been solved. Railroads and steamship lines have invested millions in terminal facilities, but bus and truck lines have in general not been forced to invest in expensive terminal properties. Often they have used the street corners as loading stations for bus lines. It is the practice of truck lines to collect and deliver freight at the doors of the consignor and consignee. Garages can be erected on comparatively cheap ground in the outskirts of the city. Truck lines will perhaps continue to have this advantage, but bus lines as they become more important will find it necessary to develop elaborate terminals. Some have even now gone a considerable distance in the development of conveniently located terminals for passenger service. But use of the public streets will always give the bus lines an advantage in terminal costs over their competitors.

Allied to this problem is that of finding adequate parking space for private business and pleasure automobiles. The streets of our cities are already overcrowded and the problem is becoming acute. Solutions such as provision of parking spaces on the roofs of buildings, in basements, and in multiple story garages have been proposed. It is not clear how the problem will be solved, but it is one of definite business importance. For example, if streets in the center of the city are so crowded as to make parking difficult, stores in the outlying sections of the city have a definite advantage. This fact is already coming to be realized. If parking on city streets is limited to one hour or to any definite short period, stores on these streets are handicapped, for their patrons will not come to a section of the city where they are limited in their privi-

[8] Thirty-three railroads use (1924) trucks as a part of their shipping service; 9 railways use demountable containers; 174 railroads use gasoline motor cars.

leges. Professional men are affected by the same situation, for many clients will come to them only as they can find easy parking space. The parking problem is an acute business problem, and one which must be solved in the future.

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CHAPTER XXIII

THE ORGANIZATION OF TRANSPORTATION

Railroad Organization

Introduction.—The business man is interested in the methods of organization used by railroads. In order to understand railroad methods and to carry out properly his relationships with them he needs to know the meaning of some of the distinctive terms used in the railroad world. For example, if a shipper is interested in securing a rate for a certain commodity to a certain destination, it is of advantage for him to know that the traffic department of the railroad has charge of the making of rates, that the entire schedule of rates is known to railroad men as "the tariff," and that freight solicitors can either quote him or secure for him all rates in which he is interested.

The Operating Department.—The operating department is one of the principal departments of a railroad. It is generally under the supervision of a "vice-president in charge of operation." The maintenance of all equipment and the movement of all trains constitute its duties. The chief engineer of the railroad, who is a member of this department, has charge of the maintenance of all right-of-way and the construction and repair of tracks, bridges, and buildings. The superintendent of motive power has charge of all locomotives and cars and is responsible for seeing that they are in usable condition at all times. The general superintendent of trains has charge of the movement of trains, distributes cars, and is responsible for the work of station agents and employees. Some railroads have a superintendent of telegraphs.

The above officials have supervision of their respective parts of the railroad organization over the entire system, except in a few railroads like the Pennsylvania which has divided its lines into four great regions and has provided one of each of the above named officials for each region. For actual supervision purposes, however, all railroads divide their lines into divisions. These divisions are from 100 to 500 miles in length. Each is under the general management of a division superintendent, but each phase of railroad operation in the division is in charge of an appropriate official whose authority is confined to one district. For example, there is a district road master, who has direct supervision of right of way, tracks, bridges and buildings, and who reports to the chief engineer of the entire system, or to the chief engineer of the region. A master mechanic has charge of all repair work done on the division, and a division train master has charge of train movements. Reporting to these officials are several assistants. Train dispatchers, for example, work under the train master for the division. The road master has the assistance of a master carpenter, a signal supervisor, and a track foreman as well as a considerable number of local section foremen each of whom is in charge of a small gang of laborers on the right-of-way and tracks. By using this type of organization, the operating department of a railroad is conducted through direct lines of authority. In general, our railroads are administered very efficiently, and for this reason other business men may well study the organization of successful railroad companies.

The Traffic Department.—The traffic department is the sales department of a railroad, for its principal duty is selling the services of the road both freight and passenger. A general freight agent is in charge of all activities having to do with securing freight for the railroad to haul. Under him work a varying number of freight solicitors whose business it is to find out when large shipments of freight are to be made by

certain shippers and to try to convince the shippers that the services of the particular railroad should be used. They also call regularly on important shippers with the object of inducing them to route all possible shipments over that road. Freight solicitors work not only in the territory served by the road they represent but in the principal cities in other sections of the country. For example, the Rock Island and the Santa Fé railroads, as well as other western roads, have freight solicitors in all principal eastern cities, whose business it is to convince eastern shippers that the Santa Fé or the Rock Island, as the case may be, offers the best service to southwestern points, many of which can be easily reached by shipments over either road. Solicitors not in the territory of the road they serve are said to operate from "off line offices."

Passenger solicitation is carried on under the direction of a general passenger agent. Salesmen known as traveling passenger agents solicit passenger business just as freight solicitors solicit freight shipments. For example, if it is known that the Advertising Clubs of the World are to hold a convention in a certain city, traveling passenger agents visit clubs or local club officials with the object of inducing them to route the special cars or trains going to the convention over the road represented by the salesman. Winter tourist business to California and Florida, summer vacation trips and the like, furnish a field for active solicitation by traveling passenger agents. There is little doubt that their activities, combined as they are with advertisements and direct mail folders, have done much to increase the total amount of passenger business.

Another important phase of the work of the traffic department, both freight and passenger, is the making of rates. For the general freight agent and his assistants this is a particularly important duty, for, as will be shown below, there are a number of very important factors to be considered in making either the rate on a certain commodity or the rate between two shipping points. Upon the successful determination of proper

rates depends to a large degree the financial prosperity of the railroad. The general passenger agent is less affected by rate problems, for, in general, passenger rates are determined on a straight mileage basis. But this basis is modified by the fact that the rate between two points served by two or more roads is determined by the mileage of the shortest road, and by the fact of excursion rates of 1½ fare for certain meetings, etc.

The Industrial Promotion Department.—Nearly all railroads have a department, called the industrial promotion department or some similar name, whose primary function is to develop more business for the railroad from the territory which it serves. Freight solicitors are confined to business which already exists. But representatives of promotion departments aid in creating business for the future, in addition to that which now exists. For example, most of the western roads have agricultural commissioners whose duty is to aid the development of agriculture in their territory. Agricultural experts are employed by the road to study the farming problems of the different sections served by the road and to supplement the work of state experiment stations and county agents. Railroads rightly believe that if greater farm production is made possible the railroad will receive a part of the benefit. Outgoing shipments of farm crops will be greater, and incoming shipments of manufactured goods will increase because of the greater prosperity of the people living along the lines of the road.

In addition to giving farmers advice from experts, a number of railroads have run demonstration trains of different kinds. One Ohio railroad recently cooperated with the College of Agriculture of the State University in running a "lime train," that is, a train which made stops at all stations of the road and by means of talks and demonstrations showed the farmers how to test soil to determine whether or not it needed an application of lime, how much lime to use, how to apply it,

and so forth. The railroad followed up the work of the demonstration train by helping the farmers to locate lime which they could purchase and by giving a special rate on lime shipped into the territory of the road for use on farms. In the same way railroads have run "better-seed-corn" trains and "better-dairy-sire" trains, and in many other ways have cooperated in raising the standard of agriculture in their communities. They have been an effective agency in spreading knowledge of the methods of scientific agriculture.[1]

A similar phase of development work is that carried on by special agents of a railroad who aid in the development of new manufacturing or mining industries along the lines of the roads. Industrial surveys of towns served by the road are made to determine what type of manufacturing can best be carried on in each town. The roads then make a definite effort to induce new manufacturing plants to open in these towns or to induce established plants to move to more favorable locations.

Some western roads have a department whose duty it is to encourage the settlement of unused land along their lines. Advertisements are run, calling to the attention of farmers in the East the advantage of western lands; special excursions are run to selected towns where there is good land available, and in other ways colonization is stimulated. Something of the same kind has been done by southern and southwestern lines as well.

Other Departments of a Railroad.—The organization of a railroad varies greatly with its size. Practically all important railroads, however, have in addition to the departments already mentioned, certain other special departments. The legal department is very important. The solution of financial problems often calls for legal advice. Claims for personal and property damage are referred to the legal department by the

[1] Compare page 21.

claim department. Construction of new buildings, bridges, and tracks frequently involves legal action. The head of this department, known as the general counsel, is assisted by a number of other attorneys and by legal representatives of the road at all important towns along its line.

The accounting problems of a railroad are numerous and important. Use of the equipment of other roads calls for elaborate accounting records. Shipment of freight over two or more lines and the collection of all charges by one road involve much accounting. The same is true of passenger fares, which must be often divided between two or more railroads. For these and other reasons the accounting systems used by railroads have been especially developed and constitute a special field of accounting.

The medical department of a railroad has to do with the examination of employees and with a certain amount of care of sick and wounded employees. Nearly every town of importance has at least one doctor who is connected with this department of the railroad, although of course on a part-time basis. The purchasing department of a railroad is important for, in general, railroads have gone far in the development of centralized purchasing.

Ocean Transportation Organization

Peculiarities of Ocean Traffic.—Although there are some similarities between ocean and land traffic, the distinct nature of the service rendered by ocean carriers has caused some peculiarities of organization. For example, there are three distinct classes of ocean carriers, those operated as lines, those operated as tramps, and special privately owned industrial carriers.

The lines are primarily engaged in the passenger service, although there are many important freight lines. Liners sail on a regular announced schedule, arrive at a designated point

within certain very close time limits, and call at certain points en route whether or not there be freight or passengers for these points. Line service is like the regular passenger service and most of the freight service of the railroads. The schedule is followed whether there is a full load or not. Naturally the largest, fastest, and best passenger carriers are operated on a line basis, for persons patronizing such boats must be assured of regular dependable service. Many such boats specialize in passenger, mail, and light valuable freight; other liners emphasize their freight service and carry a smaller number of passengers. The passage time is slower for this latter class of boats and their passenger rates are lower.

Line service can be rendered only when there is a regular dependable amount of traffic between the points served by the line. In many cases liners serve important ports, but have regular connections with lines operating out of these ports for less important places. Line service necessitates also dependable wharf or lighterage warehouse facilities, which can either be rented or owned by the lines.

Tramp Service.—The second important class of ocean carriers is that of the so-called "tramps." This term refers to the vessels, mainly freight carriers, which have no regular route or regular rates of sailing, but go where there is business and whenever it may be had. The tramp is usually chartered, that is, rented, by a business concern which has a cargo to deliver to a certain port not served by regular line carriers. Sometimes the rates for tramp service, which are usually lower than those of the liners, appeal to the shipper. Such a shipper usually turns over to a ship broker a request for a vessel to go to a certain point with cargo, or for cargo. The broker then gets offers from the owners of vessels which are available for such service and a contract or "charter party" is entered into between the owner of the vessel selected and the shipper.

Rates for service of this type depend largely upon the

possibility of securing a full cargo for the return voyage or for the voyage to the port, or to some nearby port where a cargo is to be taken on. Tramps are usually used only for full cargo service and hence in the main carry bulky commodities and those which are handled on a large scale. Common cargoes for tramps are grain, coal, ore, fertilizer, lumber, and sugar. Tramps, however, sometimes carry mixed cargoes. When this is the case they have usually been chartered by a ship speculator or freight forwarder who charters the ship and takes his chance on filling it with a mixed cargo solicited from many shippers. Tramps are sometimes chartered by lines to supplement their regular liners, and sometimes line vessels are put into tramp service temporarily. Tramps and liners are only partly competitive in the service they render. There is some overlapping of cargoes, especially when the tramp is chartered for a mixed cargo, but in general the commodities handled by the tramps are not desired by the lines.

Private Lines.—Private industrial boats, such as those operated by some of the big oil companies for transportation of either crude or refined oil, constitute the third class of ocean carriers. Usually such boats need some type of special equipment which makes ownership by the companies transporting the commodities desirable, but sometimes they are owned because of a possible saving in freight costs. In a few cases it has been asserted that vessels have been owned and operated because of the control over the market for the commodity which accompanied control of transportation; as, for example, in the tropical fruit trade where it is said that ownership of railroads, wharfs, and steamship lines gives certain large fruit companies a dominant position in the trade. Industrial carriers often compete with the tramps for cargoes on one leg of their journey; for example, oil tankers to the tropics carry cocoanut oil on their return trip to this country.

Like the railroad companies, steamship companies maintain

a corps of solicitors whose business it is to get available freight and passenger business for the line they represent. These men work on a commission basis. They are sometimes called "ocean freight brokers," but should not be confused with ship brokers, whose business it is to bring together owners of tramp steamers and persons wishing to charter such boats.

Relation of Railroads to Ocean Traffic.—The principal railroads which have ocean terminals have agreements with steamship companies, for they frequently carry freight on through export bills of lading and turn it over to designated ocean lines for completion of the haul. Some roads, like the Canadian Pacific, operate ocean liners or coastwise boats. Some railroads perform general lighterage services, and some have gone so far as to develop foreign freight departments which assist exporters and importers of merchandise in a number of ways, in some cases even to the extent of acting as general freight forwarders.

Ocean Traffic Conferences.—Conferences between owners of steamship lines have been a distinctive feature of water transportation in the past. These have sometimes been formal, with signed agreements, and sometimes have been informal with only oral agreements. Such subjects as rates, times of sailing, wages, traffic regulations, commissions to solicitors, and the like have been discussed, and joint action has been agreed on. Such conferences have been possible and not illegal in the United States because they have dealt with matters which do not come under the jurisdiction of the anti-trust laws of this country. It is not known how important such conferences are at present because they are generally secret. A few such conferences have been in effect in tramp traffic, but as compared with line traffic they have been relatively unimportant.

Coastwise, river, and inland lake transportation is organized and conducted on very much the same basis as ocean

transportation. Perhaps the tramp steamer is not so important here because of the fact that the limited number of ports of call lessens the field for such service. Industrial steamers on the Great Lakes are very important, especially in the iron ore and coal carrying trades.

Some Important Transportation Terms

Freight Terms.—The shipping and receiving of freight is such an important phase of business that prospective business men need to know something of the principal relationships which grow out of these functions and something of the special vocabulary which has been developed to apply to these relationships.

Freight is either C.L. or L.C.L. The first abbreviation applies to shipments which make an entire car, and the latter to freight which is less than a carload in bulk. L.C.L. freight in general is delivered to the freight sheds of a railroad by the shipper or by a transportation company paid by him. Incoming L.C.L. freight is taken from the sheds by the shipper. Much C.L. freight is loaded directly into cars placed on the industrial siding of the shipper or on "team tracks" at the terminal. In general L.C.L. freight pays a higher rate than the same commodities do when they move in car load lots, the reason being obvious.

Bills of Lading.—Certain specialized forms of record have been developed for use by railroads and shippers when freight is shipped. The most important of these, from the business man's standpoint, is the bill of lading. This is issued to the shipper by the railroad when freight is delivered to it. Normally it is issued in triplicate, each copy having a definite function. One is known as the original copy and is sent to the consignee by the shipper. It is used by him as his authority for claiming the freight at the destination of the shipment.

The second copy is the order copy and is retained by the railroad as its authority for transporting the goods to a given destination. The third copy, known as the memorandum copy, is held by the shipper as his receipt for the goods from the railroad. The bill of lading shows the weight of the shipment, the classification and rate which it carries and in case of C. L. shipments, the car into which it is loaded. A modification of the straight bill of lading is known as the "order bill of lading." This form is used when a shipper wishes to collect for the shipment before the consignee secures possession. Instead of the original copy going directly to the consignee, it is sent through banking channels with a draft attached. In order to secure possession of the goods, the consignee must pay the draft and get the original copy of the bill of lading, for the railroad company has been instructed not to deliver the goods until the consignee presents the bill of lading. When a straight bill of lading is used the railroad may not require surrender of the original before delivery is made. In many lines of business the order bill of lading is much used.

Railroad Regulations.—C.L. freight may be reconsigned or diverted if certain regulations of the railroad are carried out. Because of change of market conditions it is often desirable to change the destination of a car of perishable goods. Sometimes a consignee is not able to meet the draft attached to the order bill of lading and the goods must be reconsigned to another purchaser. In the case of fruit it is often necessary to "roll" cars before the fruit has been sold. For example, during the height of the shipping season a considerable part of the shipments of northwestern boxed apples are "rolled" unsold, with the thought that the cars will be sold before they reach the eastern market. They are therefore consigned to the shipper himself, say the Gellatly Fruit Company of Wenatchee, Washington, at some eastern destination such as Minneapolis Transfer, Minnesota. If the car of apples has

been sold by one of the shipper's brokers by the time the fruit reaches this point—8 or 10 days after shipment—the car is reconsigned to the purchaser. If it is not sold it is diverted to Chicago or perhaps Louisville or Cleveland with the belief that before it reaches the new destination three or four days later it will be sold. If so, it is consigned to the purchaser; if not sold, it is moved on to another reconsignment point. This process can be repeated as many times as desirable just so long as the new consignment point does not involve hauling the fruit back over the lines it has traveled. One reason why this is possible is that northwestern fruit pays the same freight rate to all points east of the Mississippi River. This system is commonly used for perishables and sometimes for other goods, where storage facilities at point of production are so inadequate as to make shipment necessary as soon as the goods have been manufactured.

Allied to the consignment or diversion privilege is the "in transit privilege." This allows for stopping goods at some point, unloading and storing them or changing their form, and later reshipping without losing the through rate. The advantage of this is that the freight rate is usually less than the combined local rates. Typical uses of this privilege are the milling of flour in transit, cold storage of perishables, refining of oils, grazing, feeding, or watering live stock, or creosoting lumber.

If freight is allowed to remain in a car on a side track for longer than the set time, usually 48 hours, a charge is made for the use of the car for the longer period. This charge is known as "demurrage" and is so high as to discourage the use of freight cars as warehouses, for it is usually cheaper to hire storage space or to handle the goods on extra time than to pay the demurrage charge. In certain yards where, because of the high value of land, track storage of goods is an expense to the railroad, a charge is made for every day the car sits on the track waiting unloading. This is often $1 for the first day and $2 for each succeeding day. When L.C.L. freight remains

in the freight sheds longer than a certain specified period, storage charges are made. Baggage remaining in a baggage room longer than one day is charged for at the rate of 25 cents a day by some roads. These charges are levied to discourage the use of railroad warehouses for general storage purposes.

Claims.—Claims made by shippers against the carriers are normally about 2 per cent of all charges made by railroads. In 1921 over 630,000 claims were filed and about $97,000.000 was paid by railroads on such claims.[2] This enormous amount represents some of the costs of transportation, for when a road accepts goods for transport it thereby assumes an obligation to deliver them in good order, and to deliver the exact quantity of goods intrusted to it. It also promises to deliver the goods in a reasonable time. Thus claims based on failure to render service are common. A business man who has suffered a loss must file a statement of his claim and supporting papers.[3] The statement is then referred to the claim department, which investigates to see if the road is liable and if the amount claimed as a loss fairly represents the loss incurred. This investigation usually takes a considerable period of time, and the shipper is therefore delayed in receipt of his payment from the railroad company. Efforts to reduce claims have met with some success, for roads have been able to do something to eliminate the reason for claims by stimulating their employees to exercise care in handling goods and to take precautions to prevent thefts of goods in transit.

Pooled Cars.—Pooled cars are becoming increasingly important, for they offer a chance to ship a car of mixed goods to a common consignee. This term is used to refer to a car of goods of either similar or dissimilar commodities, which is either shipped to one consignee who will receive the goods and distribute them to a number of owners, or to a car which

[2] Haney, L. H., "The Business of Railway Transportation," page 561.
[3] See Maynard, H. H., "Marketing Northwestern Apples," pp. 101-3, for a statement of the methods used in collecting a typical claim.

has been collected by a transfer or forwarding company from a number of owners and is shipped either to one consignee or to a number of consignees through the use of a common receiver. For example, suppose that a manufacturer of phonographs on the eastern coast has a number of orders from dealers in the Southwest, but does not maintain an agency or warehouse which could distribute these instruments for him to the different dealers. By the use of a pooled car he can ship the phonographs to one of the dealers, who will take out his share of the shipment and reship the remainder as L.C.L., or express shipments, to the other dealers. Another method would be to ship the car to a warehouse operator in Kansas City who would receive the goods and reship them. It is very common for this latter method to be used when not all the goods in the car have been sold. The warehouse simply holds the unsold instruments and ships them out as ordered to do so by the manufacturer.

Pooled cars are important in the shipment of household goods. They are used as follows. A company in Chicago advertises that it is collecting household goods in L.C.L. lots for shipment to California. Goods received from a number of owners who are moving to California are put in one car and sent to the agent of the company at San Francisco or Los Angeles, who ships them out to the consignees as L.C.L. freight if the destination is out of that city, or delivers them by truck to the new home of the shipper. In this way a shipper with only a part of a car of goods can receive a car load rate and also be assured of more prompt arrival of the goods; for L.C.L. shipments often move slowly, and the chance of damage is lessened through lessening the handling in transit.

Scattered over the United States, especially in the larger cities, there are a number of freight forwarders whose business depends on the use of pooled cars. They purchase transportation at wholesale, in carload lots, and sell it at retail in L.C.L. lots as they secure enough commodities to fill the car. They

make their profit by selling the space in the car for more than they pay for it, for they buy it at C.L. rates. The total amount of such shipments is an important part of the total freight of the country.

Freight Rates

Importance of Freight Rates.—The determination of proper freight rates is a difficult but vitally important part of the work of the freight traffic department. If the rates are not properly set, traffic will not move as it should. If traffic does not move, the success of the railroad is affected. Freight traffic departments, in determining rates, must take into consideration a number of factors and must choose between a number of different theories of freight rates. The first point to be determined in setting the rate on a certain commodity is its classification. Just what is meant by this term and why it is important will be discussed below, but the student must first understand the fundamentals of rate making.

Rates are usually quoted on a basis of 100 pounds as the unit. Two rates must be set, one for L.C.L. business and one for the same commodity when it moves in carload lots; for the cost of handling freight varies with its quantity, and in general goods may move in L.C.L. lots at a rate which would prevent their movement in carload quantities. Rates are set and revised by the freight traffic manager and his corps of expert assistants for each railroad, but are subject to the approval of the Interstate Commerce Commission [4] which may initiate rates as well as approve rates set by the railroad companies. In setting rates the freight traffic department, in addition to considering classification, bases its decision on a number of different theories of rate making.

One theory is that all freight which moves should pay enough to meet the actual cost of moving the shipment. This theory is very hard to apply because of the fact that railroad

[4] See Chapter XXVIII.

costs are joint costs, and it is practically impossible to determine what the cost of moving any certain shipment actually is. Tracks are used jointly by both passenger and freight trains. It is hard to determine what part of the original cost of the right-of-way and of the track and all its improvements should be met by freight traffic and what part by passenger traffic. Even after that was determined it would still be very hard to determine what the actual cost for a certain shipment should be on the basis of its wear and tear on the track and right-of-way. In fact it may cost nothing or a very small amount to haul an additional car or an additional 100 pounds of freight over a certain line so far as track cost is concerned. Other joint costs that make a cost theory impossible of application are telegraph costs, general management costs, repairs of bridges, etc. Another objection is that a strict application of the cost theory would probably result in stopping the shipment of goods the movement of which is both socially and economically desirable.

Other Rate Theories.—It has been proposed that railroad rates should be proportional to the distance the goods are moved. This theory is not accepted because of the fact that terminal costs are a considerable part of the cost of moving any shipment; and terminal costs do not vary with the distance, but are the same whether the goods are carried 25 or 2,500 miles. Other expenses do not vary with the distance, and hence for this reason the theory is not valid. A further objection to the distance theory is that if it were strictly applied desirable movements of goods would be stopped in many cases.

Other theories have been proposed, discussed, and perhaps applied in some cases, but there is coming to be a pretty general agreement that in practice rail rates are more often determined by what the traffic will bear than by any other consideration. This idea applies the fact that there is a limit to the amount

which some commodities can pay for transportation and still move. Heavy, bulky, but cheap commodities cannot pay their share of the costs of transporting them and move very far as a rule. But other commodities which are heavy but valuable or those which are light and very valuable can pay much more than they would be called on to pay under a cost, weight, or distance theory and still move. For example, raw silk can afford to pay a very high freight rate for its carriage across the country, for even a high rate would be but a small part of the cost of the silk delivered in New York or Paterson. Hence freight traffic departments tend to consider the value of the commodities in the market to which they are being shipped, and the probability of a certain rate being so high as to stop shipment of the goods under consideration. They then balance this amount against certain other factors, such as an estimate of the actual cost of transporting the goods, competition, the amount of freight which is moving in the same direction, and so forth, and by a series of estimates arrive at a certain rate which they announce as the rate between two points for all commodities falling in a certain classification. All articles which fall into this classification pay the rate which is announced. Much of the problem of the traffic department is therefore in the determination of the classification which it can give to each commodity and still allow the goods to move.

Freight Classification.—There are in the United States three regions which have been set up for freight classification purposes: known as official, southern, and western territory. Official territory is the portion of the United States which lies, roughly speaking, north of the Ohio and east of the Mississippi River—with the exception of a part of Illinois, Minnesota, and Michigan, and all of Wisconsin. The southern region lies south of the Ohio and east of the Mississippi, while the western region takes in the remainder of the United States. Within these regions there is some little difference in the classi-

fication of the same articles, for a commodity might be second class in western territory, for instance, and third class in official territory. There are 8 classes of goods in official territory and 10 in southern and western territory. Just what is meant by classification and the reasons for the existence of a number of classes can best be shown by illustrations.

Portland cement in official territory when it moves in L.C.L. lots in either bags or barrels is classified as fourth class freight and pays a corresponding rate. In southern territory it moves as fifth class. In carload lots it takes sixth class rates in both territories. Canoes take four times the first class rate or the first class rate with a minimum of 800 pounds per canoe. In western territory if they are wrapped they take only three times the first class rate. Steel or wooden canoes either nested or folded, however, take only double the first class rate. Bakery goods such as crackers, biscuits, etc., are classified as first or second class, the variation depending on different methods of packing when they are L.C.L. quantities, but fourth class when they move in carload lots.

The Basis of Classification.—The above illustrations show that classification of any article depends on certain factors. The first group depends on what might be called, in general, conditions of shipment; that is, the method of packing, the weight of the article in relation to the space it occupies in the car, the danger of breakage or damage in transit which would form the basis of a claim upon the transportation company, and the value of the article are factors in determining freight classification. For example, cigarettes are classified as double first class unless they are packed in certain types of containers which make theft difficult, for railroad experience has shown that cigarettes are frequently stolen in transit. The railroad must therefore charge a rate for them, by means of a high classification, which will compensate it for the danger of loss. The second main consideration in classifying articles is to put

them under a classification which will not involve the payment of a higher rate than the articles can afford to pay and still move. "What the traffic will bear" is therefore an important factor in determining classification of articles to be moved by freight or express, for the same general methods are used for express shipments as for freight.

The above discussion has shown that freight is grouped in a number of classes. It was shown earlier that the rate which each class of freight must pay between two points was also determined by the freight traffic department of the railroad concerned. To determine the actual rate to be charged, the freight agent must therefore consult, first his classification guide book to determine the classification of the article, and then his rate book to see what is the rate on that classification to the destination.

Certain articles if given the classification which they naturally should have when the usual factors are considered would take a rate so high as to prevent their movement. To meet this situation a distinct class of rates known as "commodity rates" has been established. These rates are based largely or entirely on what the traffic will bear, especially upon consideration of market conditions and the desirability of allowing certain articles to move to new markets by giving them a comparatively low commodity rate. Typical articles carrying commodity rates are live stock, coal, sand and gravel, grain, and crude oil. The latter is given a commodity rate to prevent the construction of additional pipe lines rather than because it cannot pay a rate based on its classification. In a recent year one prominent railroad had 750 articles moving under commodity rates. Indeed most railroad freight, in terms of bulk and tonnage but not value, moves under commodity rates.

Importance of Railroad Rates.—It has been suggested above that the freight rates in operation in any country have a vital relation to its development. If specialization of produc-

tion is to be carried on in certain areas, rates must be so adjusted that the products of the region can reach a general market. Were the principle of distance or that of the cost of rendering service adopted for California fruit sent to the eastern coast markets, the rate charged would be so much higher than the rate charged Florida growers that California fruit could not compete in the eastern markets. But the railroads have realized that the California fruit business means a very large tonnage of high-class fast freight and hence have given this fruit a rate which will allow it to compete with fruit raised near the points of consumption in the east.

Another example from a different field illustrates the importance of rates. A few years ago railroads having Seattle and Portland, Oregon, for their western terminals asked the Interstate Commerce Commission for authority to lower the rates on a large number of articles an average of about 30 per cent to meet water competition from the east to these ports. It was shown in a hearing held by the commission that were this reduction granted, Seattle wholesalers in a number of lines could take away a large part of the customers formerly served by Spokane wholesalers; for Seattle wholesalers could ship in goods from the east for a lower cost than could Spokane wholesalers. For this reason they could sell goods almost as far east as Spokane. The fact that the local freight rate from Seattle would be more than that from Spokane was proved unimportant, since a lower price would be given the retailers by the Seattle wholesalers. A third illustration is based on a proposal to change the level of the rates on certain steel and iron products from Ohio points to the west. Without going into detail it may be said that manufacturers of these products would virtually have been forced out of business. The railroads, when this fact was presented to them, did not make the proposed change in rates. Other illustrations would prove the same point—that the level of rates and individual rates as

well bear a very important relation to the industrial development of any country.

Passenger, Mail and Express Service

Passenger Service.—Although the revenue from the passenger service is on an average only about 25 per cent of the total revenue of a railroad, passenger service because of its personal nature receives much more than its proportional share of attention from both the roads and the public. Passenger service has certain distinct characteristics. Trains move on schedule whether there be a full load or not. This is not always true of freight trains. Terminal problems are different, for the "passengers load and unload themselves"; but this saving is in part offset by the cost of expensive passenger terminals.

In other countries of the world there is a general recognition of the principle of classification of passengers and a variation in the service rendered. But with the exception of Pullman service that principle has made little headway in this country. Perhaps the general belief that every American is as good as every other American is the reason. A few roads have applied the classification idea in "immigrant rates and services." Excursion rates usually are accompanied by poor service. Pullman cars came into use in this country about the Civil War period and have become so common that they meet the need for special better class service on most roads. With a few exceptions the roads do not own the Pullman cars which are operated on their lines, but have an arrangement with the Pullman Company for rendering this service. The reason for this is that if all Pullman cars are owned by one company they can be shifted back and forth from road to road to meet special demands for service to certain parts of the country. Winter passenger movements to California and Florida, and large conventions illustrate the need for a large but temporary supply

of Pullman service by certain roads. The actual method and amount of compensation for the use of Pullman cars differs with different roads. Berth charges are made almost entirely on the basis of the time occupied, while seats are charged for in accordance with the distance traveled. The cost of carrying passengers in Pullman cars is considerable, for only a very limited number of people can be carried in a Pullman car as compared with the regular day coach. To meet this extra cost the railroads have been allowed in recent years to make a sur-charge of 50 per cent of the Pullman rate. This is paid when the Pullman ticket is purchased, but goes to the railroad.

Express Service of the Railroads.—To meet the need for more rapid transportation of certain commodities than was rendered by regular freight service, an express line was established between Boston and New York as early as 1839. Other lines soon followed and in 1844 the Adams Express Company was formed. The American Express Company was organized in 1850 and the Wells Fargo Company in 1852. The fourth principal company, the United States Express Company, was in the field by 1854. These companies, with the Southern Express Company, operated most of the express services of the country until their temporary consolidation during the government operation of the railroads during the war. In 1918 the companies were definitely united into the American Railway Express Company which now has a virtual monopoly of the field.

The organization of express companies is simple, for their business is done on the basis of contracts with the railroads which provide for hauling express cars which the railroad furnishes. All net profits from the express business are divided between the railroads and the express company at an agreed ratio. The country is divided into four divisions for determination of the net income from the express service, and a settlement is made for each of the four divisions. Express

shipments are classified on much the same basis as freight shipments, although there are fewer classifications. Certain articles are given commodity rates. Rates are determined between different points for each classification of goods. The entire rate structure is much simpler than that used for freight shipments, however, and in general is based on the distance principle of rate making.

Shipping papers used for express are much like those for freight shipments. A receipt which corresponds to the bill of lading for freight shipments is given to the shipper. The label pasted on the package is the second paper used and a way bill for the guidance of the company corresponds to the freight way bill. Express companies are important in the transfer of packages of valuable papers and of money and other valuables. They also compete with banks in selling travelers' checks and in the sale of foreign exchange.

Mail Service.—About 90 per cent of all mail is handled by the railways; airplanes, stagecoaches, steamboats, and electric lines carry the remaining 10 per cent. Over 10,000 "star routes" or mail lines connecting some interior post office with a railroad are operated. The social, business, and educational value of the well organized and reliable mail service of this country cannot be over emphasized. Business as now conducted would be impossible were it not for reliable mail service. Railroads furnish the cars needed for mail service and transport these cars as the necessity requires. They are paid for this service on the basis of the amount of space used.

A recent but important part of the mail service is the parcel post service. Although it was long desired and long agitated, its establishment was delayed through the opposition of the large express companies, who feared its competition, and by the opposition of small retailers, who feared that parcel post service would be of great value to the mail order houses. Probably the operation of the service has shown that both

fears were well founded, but the country as a whole has benefited immeasurably by the use of the parcel post service. Although government records are not complete enough to show the exact figures, it is probable that year after year the parcel post service is run at a loss. Because of this there has been agitation for an increase in rates which may result in higher parcel post rates. Allied with this is the agitation for an increase in rates charged for certain classes of mail matter, particularly newspaper and periodicals. Transportation of these articles is carried on at a loss, but in the opinion of many, justifiably so, because of the social and educational value which follows their widespread distribution.

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CHAPTER XXIV

THE RELATION OF PUBLIC UTILITIES TO BUSINESS

Definition.—The term "public utilities" is commonly used to refer to a class of business enterprises in the operation of which the public has a special interest. This interest grows out of the peculiar nature of the service rendered. Public utilities are owned both by private organizations and by the public. The water supply of our towns and cities is commonly furnished by the municipality, as is the service of sanitary sewers. Gas and electric plants are very frequently owned by the cities which they serve. A considerable number of street car lines are so owned. In a few cases heat is supplied from a central plant owned by the municipality, although as a rule heat can be supplied on a large scale only when it is the by-product of some other industry. European governments in several cases own and operate railroad systems. Our government recently built a railroad into the interior of Alaska. Canals are usually built by state or federal governments, or direct aid is given to private companies who build them. On the other hand, interurban lines, bus lines, steam railroads, telephones, and telegraphs, and in the majority of cases street railways and gas and electric companies are as a rule privately owned.

Importance of Utilities.—A century ago there was little need for the service now rendered by utilities. Transportation service of all kinds was commonly provided by the individual user. Merchants transported their goods by caravans or by vessels which they owned or chartered. Privately owned horses, carriages, and boats were used for personal transporta-

tion. Light, heat, and water were supplied by privately owned equipment. Early manufacturers furnished the power which they used by installing individually owned power plants.

Present-day economic life presents a marked contrast; for life in both its private and business aspects has come to depend very largely on utilities. Transportation of all kinds of commodities is almost exclusively rendered by special companies organized for that purpose.[1] Individuals depend largely on railroads, street car companies, and bus lines for personal transportation. Except in the open country artificial light is almost entirely provided by electric and gas companies, and to an increasing extent power lines are being extended to the rural districts. Comparatively few residents of the larger towns and the cities provide their own water supply. Gas is largely used for heating purposes in the regions having access to supplies of natural gas. The invention of the telephone made the service of a new utility not only desirable but necessary, for the nature of telephone service prevents its supply by individuals. Business enterprise depends largely on telegraph service rendered by a public utility, and the users of wireless telegraphy are also dependent upon a utility service. Radio broadcasting may be rendered in the future by a utility company.

Our Dependence on Utilities.—The real measure of dependence on utilities can be emphasized by a consideration of the effect on present-day life of the abolition of services now rendered by them. Strikes have resulted in temporary abandonment or curtailing of street car service in certain cities. Business in these cities was practically at a standstill because neither employees nor customers could get to factories or stores with ease or certainty. Even temporary failure of the water supply of a city would be certain to cause great hardship because of the importance of an adequate supply of water in both

[1] See page 267.

private and business life. If water becomes too "hard" damage to boilers of power plants often results; and users of water for laundry purposes are compelled to soften the water sometimes at considerable expense. Impure water is often the cause of disease, and hence the municipality or the utility which supplies water must not only render uninterrupted service but must exert every effort to maintain the purity of the water supplied. Failure of the gas supply of a city would be certain to cause hardship and often sickness because of its wide use for heating, cooking, and lighting purposes. Even the threat of temporary abandonment or curtailment of steam railroad service has been sufficient to arouse the public to a realization of its great dependence on the transportation service rendered by the carriers. Any decrease in the quality of service rendered by any of the utilities is certain to affect a majority of the residents of our cities and towns in both their private and their business relationships.

Not only is modern day business dependent on uninterrupted quality service, but such service must be rendered at a fair price. Important changes in railroad rates are usually followed by changes in the place of manufacture of certain commodities, or in the method of their distribution. If such changes result in a certain factory moving from a community to another location, the business life of a community is affected. In some cases communities have suffered severely by the loss of factories upon which the life of the community depended. If the rate for electricity used for power be greatly increased, factories using such power may be greatly handicapped by the resulting increase in their production costs. If the rates at which natural gas is sold to the public are increased beyond a certain point, residents using gas for heating purposes may be compelled to substitute coal for gas burning equipment. Increased street car rates usually have some effect on the number of people using the street cars and if the increase be great enough retail business men in the shopping districts may find

that the public does not come to their stores as frequently as before. Excessively high street railway fares or limited service may contribute toward the creation of slums as a consequence of the resulting congestion of population. Hence the public is interested in the rate at which the public utility companies render their service as well as in the quality of service rendered. In order that public utility companies may be enabled to give uninterrupted and efficient service to all applicants, they must not only observe the general rules necessary to the successful conduct of all business, but must solve certain problems peculiar to the public utility business. A consideration of some of these problems will be presented in later sections.

The Nature of Utilities.—The outstanding characteristic of public utilities of all kinds is the fact of their monopolistic control of the service which they render. Because of the desire to avoid duplication of service only one utility of a kind is usually allowed to render service in a certain territory. It would be very uneconomical to have two sets of gas mains on a certain street or two electric light and power lines in the same territory. Usually only one street car company serves an entire city, for the public desires to have service over the entire city on the lines of a single company to avoid repayment of fares. The outstanding exception to the rule is in the case of telephone service. In a number of cities there are two distinct telephone companies each having its own lines and each refusing to give its subscribers service over the lines of the other company. There is, however, a marked tendency for the elimination of this duplication of service and for concentration of telephone service in the hands of one company in order that all subscribers may have connections with all other telephone subscribers in the city.

The Need for Regulation.—The fact of monopolistic control of utility service makes regulation by the public necessary. If one company were given the exclusive right to sell electricity

in any city and if control over the rates and conditions of service was not retained by the city, the public would be at the mercy of the company, for it could charge any rates that it desired. Hence in return for the grant of monopoly the public, either through the city council or through a state commission, retains the right to regulate the rates charged for the service rendered by utilities. Before a utility can use the streets of a town or city it is usually compelled to secure a franchise either by vote of the public or by action of the representatives of the public, the city council. This franchise is a contract between the utility company and the city which states the rights given to the utility and the service to be rendered by the company in return for the special rights given it by the public. For example, a street railway company may be granted a franchise which gives it the exclusive right to use the streets of the city for its lines for a period of twenty years. In return the company promises to maintain a certain standard of service, in that it will operate cars with sufficient frequency and in sufficient numbers to give the public good service. The company often agrees in the franchise to extend its service a minimum number of miles each year and to provide paving between its tracks and for a certain distance on each side in accordance with the regulations of the city council. In return for the grant of a franchise, telephone companies agree to supply service to all applicants. Rates for service are sometimes included as a part of the franchise.

In the main, our regulation of public utilities has been organized on a local basis, a condition in keeping with the original purely local character of most utilities. With the increase in the size of utilities, however, and the development of great combinations, local regulation proves inadequate to meet the situation. Municipal regulation or even state regulation may prove inadequate to solve the problems which arise when single utility companies serve a large number of communities. Local regulation may permit a utility such as a nat-

ural gas company supplying several towns to pit one community against another in bidding up the price of gas whenever a local franchise expires. On the other hand while local regulation may favor the utility as described above, nevertheless such regulation may be a source of great inconvenience and loss to a utility serving a number of communities, since communities vary in the requirements they put upon a common service. In the case of a gas company, for example, each community may set up its own standards of thermal unit content for gas, and the standard of each town may differ from that of every other town served by the company. Such a condition cannot be easily met and the resulting controversies may subject the gas company to heavy losses.

In the light of the increasing size of utility companies and the widened market which many companies tend to serve, it would seem desirable to substitute state regulation for much of the purely local regulation that exists today, and in the case of certain utilities to substitute even national regulation for existent state and local control. Sixty electric power companies now cross state lines. It is a serious question whether even state regulation can solve effectively the problem created by the development of great electric generating and distributing companies whose operations may involve vast sections of the country.

Business Aspects of the Public Utility Business

Market Risks.—Public utilities like ordinary businesses are subject to a great variety of business risks,[2] and the risk involved in the public utility business is probably on the increase. Historically because of their monopolistic position, utilities have been regarded as being subject to a much smaller measure of market risk than have ordinary competitive enterprises. Furthermore, the essential character of the services

[2] See Chapter XXVI.

rendered by utilities has seemed to guarantee a steadier market than competitive industries, especially those producing non-essentials, could expect to enjoy. Certain developments, however, have resulted in materially increasing the degree of market risk assumed by utilities. Many utilities such as gas, electric, and water companies, which formerly found their major markets in the household, now find a large market in the industrial field. So long as the utility was serving the householders alone it found a very steady market because of the essential nature of its service. With the development of its industrial market the situation changed, and the utility found the demand for its services fluctuating with changes in the level of local industrial activity.

In those instances where a single industry dominates the business life of a community and this industry is a large consumer of the services of the local utilities, the market risks of the utilities reach their maximum. A decline in the business of a large industrial consumer or the removal of an industry or industries from a community may seriously impair the income of local utilities. Utilities also encounter market risks as a result of the necessity of predicting and adapting themselves to community growth. The extension of services to new residential communities always involves the risk of a volume of business inadequate to meet the costs of these extensions. Public utility franchises ordinarily provide for such extensions, and the utility may be forced to establish service in anticipation of a demand which may or may not be sufficiently large to compensate for the costs involved. In addition, experience has shown that while utilities enjoy monopolistic privileges nevertheless they, like most monopolies, are not relieved of the risk that their markets will be shared with competitors who offer substitute commodities or services. For example, interurban electric lines are complaining bitterly of the competition of bus lines, and utilities producing and distributing artificial gas have lost much patronage to electric power companies.

The invention of the high efficiency lamps beginning about 1907, which have largely supplanted the less economical carbon lamp, has operated to reduce the volume of electrical energy used. Many power companies at first made no effort to encourage the use of the more efficient lamps because the result would have been a decrease in the amount of current sold unless new demands were developed. But in spite of the attitude of power companies, high efficiency lamps soon displaced the old carbon lights.

Risks of Obsolescence.—The possibility of the equipment of a utility becoming obsolete through inventions, and losses due to the "scrapping" of equipment are an ever-present risk faced by utilities. The cable car was replaced by the trolley car and much equipment became useless as a consequence. Some authorities now predict that the trackless car will eventually supplant the trolley car in passenger transportation in our cities. Such a change would subject trolley lines to severe depreciation. In some cases the gradual character of the transition may minimize the burden of the losses due to obsolescence; while in other cases the utility, like the ordinary business enterprise, may actually profit through the prompt adoption of newer and improved equipment. Nevertheless, the obsolesence of equipment and plant as the result of improvements in the arts may result in heavy losses, particularly when the development creates a new and unforeseen competition. The building up of depreciation reserves, while it may decrease the risk and in certain cases cover the costs of replacements, cannot always eliminate all obsolescence costs; for such reserves may be entirely inadequate to provide for displacements of a revolutionary character and cannot provide adequately for the obsolescence resulting from developments in competitive fields.

Risks Due to the Exhaustion of Raw Material Supplies.—Utilities producing or distributing natural gas are subject to risks growing out of uncertainty as to the extent of the sup-

ply of gas and its duration. Advances in scientific knowledge tend to minimize these risks, however, since if the supply can be accurately measured it is possible for the gas company to build up reserves in order to prevent the exhaustion of its capital. In their assumption of risks growing out of the possible exhaustion of raw material supplies the utilities are not in an unique position, since many ordinary industrial enterprises must assume similar risks. Mining companies in particular face risks comparable to those which confront natural gas companies.

Risks of Unwise Legislation and Regulation.—As we have seen, utilities, because of their monopolistic position, are subjected to a greater measure of regulation than are ordinary businesses. Unwise legislation and regulation may bring losses to them, and the risk of such losses is another risk to which utilities are subjected.[3] Regulation may force a utility to accept inadequate rates for its services, or it may take the form of compelling the utility to extend its services into unprofitable areas. In either case, the effect may be to reduce materially the income of the utility. The utility is, however, not without some protection in these matters since the constitution provides against the taking of property without due process of law; and the courts will protect the utility when the effect of an established rate is to bring such losses to the utility as will use up its capital resources.

Size of the Business Unit—Physical Plant.—The size of the producing unit in the case of many public utilities is limited by the size of the local market for their services. Street railway lines and artificial gas producing and distributing plants are limited in size by the markets which they serve. Improvements in the transmission of electrical energy have done much to increase the size of the area which can be served by a single producing plant, with the result that electric plants

[3] See page 576.

have increased in size very rapidly. The size of producing plants in the utility field has also been much increased because of the rapid growth of American cities and the increased use of utility service by their populations and industries. In many instances the increased prosperity of rural sections has led electric power companies to extend their services to country residents with a resulting increase in the size of producing plants. This increase in the size of producing plants together with combinations of formerly independent companies has resulted in the development of very large business units in the public utility field.

Combinations of Utilities.—A number of considerations explain the marked tendency toward combinations of public utilities. There can be but little question that one of the primary motives behind the development of many combinations has been a desire on the part of the promoters to enjoy some of the profits incident to the promotion of such business ventures. There are, however, sound economic reasons behind the development of many of these combinations. As we have seen, utilities are subjected to a number of market risks which have increased with the development of an industrial market.[4] If a combination to supply a number of markets is effected, the undivided market offers greater stability. Declining consumption in one market may be offset by increased consumption in another.

Combinations of utilities in the field of electric power generation and distribution make easier the solution of problems growing out of daily and seasonal peak loads than would be the case if their solution depended upon purely local companies. The industries and householders of one community may use much more power in the daytime than at night, while in another community the peak load of the demand on the electric plant may come at night. If each community is served by an

[4] See page 502.

independent power company, each company will have much idle plant equipment, since an electric power plant must be constructed to meet the maximum demand which will be imposed on it. Similarly, if in each community the demands vary greatly with the seasons of the year, the result will be much seasonal plant idleness. Under the circumstances if a combination of the two companies is effected, the total equipment necessary to serve the two communities may be substantially reduced. In some instances during periods of maximum demand purchase of power rather than combination may be relied upon to supplement the power generated by a local company. Practically all electric power companies are required to maintain a certain "standby" plant to provide service during periods of breakdown of their regular plant. The effect of combinations is to reduce the capital invested in "standby" plants. In the case of purely local power companies in small towns it sometimes happens that the demand for power is so small during certain times of the day or night as to make it unprofitable for the company to operate its plant at all hours. The result is that consumers enjoy only a limited service. Combinations of electric power companies may enable such communities to enjoy a 24-hour electric service because of the tendency under combination to concentrate production in large plants. Combination in the utility field by increasing the scale of operation brings to the utilities many other advantages of large scale production. In the light of the advantages which result from combinations it is easy to understand the marked tendency in that direction in the field of utilities. In fact, all indications point to the rapid growth of such combinations in the future, particularly in the generation and distribution of electricity.

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CHAPTER XXV

BUSINESS RECORDS

Importance of Business Records.—In speaking of some of the outstanding characteristics of modern business, a recent writer used the significant expression, "Business runs on paper tracks." He had in mind that the modern business man uses records to a degree unknown in the days of simple business organization. When it was possible for the proprietor to supervise all the details of his business personally, it was not necessary to use elaborate records. A simple record of the amounts owed by others to the business, supplemented by an analyzed statement of purchases, sales, and expenses sufficed. Manufacturers and retailers supplied principally local markets. Articles manufactured were not great in variety, and the stocks of retailers were much smaller and less complex than at the present time. It was possible to know what should be manufactured or stocked with a considerable degree of exactness, for consumers' wants were few in number and not subject to great style variations.

But with the coming of territorial specialization in manufacturing has come the necessity of manufacturing for a broad market. Competition has become keener both in manufacturing and in retailing. Because of keen competition margins of profit are smaller and must be much more carefully determined. Competition sets a premium on efficiency. To be efficient business men of all kinds must know what is taking place in their businesses. Manufacturers must know what it costs to manufacture and sell each of the articles produced. Wholesalers need to know what it costs them to distribute goods and which articles bring them a profit and which a loss. Retailers must know which departments of their business are

being conducted at a loss, or at a profit that is comparatively smaller than that secured from other departments of their business. Farmers are realizing that they must know the costs of production of their different crops before they can determine which crops are the most profitable to produce. Because of these facts an increasing emphasis is being placed on the proper organization and operation of record systems.

A further reason for keeping adequate records is found in the fact that many business enterprises are now owned by a considerable number of people. When one man owned a factory or a store, he alone was affected when profits were made or losses incurred. But when many persons are interested in the results of a particular business, reports must be made which will show what has been accomplished by the business, what receipts are available, what expenditures are made, and what are the results of conducting the business over a certain period of time. Definite detailed records are a prerequisite to such reports. These records must be kept in such form that stockholders if they so desire may inspect the books of the company either personally or through an expert accountant. These considerations have been of influence in emphasizing the necessity for properly organized and conducted systems of business records.

Records Kept Inside the Business—Planning.—Efficient conduct of modern business requires prevision or planning in advance of performance. The extent, however, to which planning is carried out varies with different types of business. In order to plan for the proper conduct of his business the manufacturer must have some idea of what he will probably sell in a certain future period. He must make an estimate of his total sales and of the proportion of this total which will come from sales of each article produced. If proper records are kept, it will be possible for a manufacturer to make these estimates with some degree of exactness.

A proper system of records will show the manufacturer what his sales were in the past, how these sales were divided by commodities, what the cost of production was for each commodity, and how the cost of production varied in accordance with changes in raw material costs. It will also show what changes in labor costs took place, the proportion of total costs assignable to raw material, labor, machines, supervision, office work and other cost elements and in general such records as will show why his costs were what they were. He must have similar detailed figures on sales expenditures also, and on the effect on his business of changes in general business conditions.

Changes in demand due to style developments or to changing business conditions can be predicted.[1] Records showing the trend of business conditions are available from several sources. Judging from past experience the manufacturer is able to determine the probable effect on his sales of changes in business conditions as a whole. For example, manufacturers of articles of luxury know that an approaching period of business depression means a decrease in the sale of their articles, for when many men are out of work and money is scarce, luxuries are not in demand. Steel manufacturers know that a predicted revival of business means increased demand for their products; for new construction will be undertaken, and new machines made from steel will be purchased by manufacturers. A steel manufacturer can determine what proportion of this new business he can expect to secure and so decide what new equipment he must add, how many men must be employed for manufacturing and for the sales force, and what raw materials must be purchased. This means indeed that he can plan his production and sales schedules several months in advance.

Wholesalers must anticipate the demand of their customers by placing orders with manufacturers or other suppliers. In other words, they must plan their probable sales in advance

[1] See pages 531-534.

so that their purchases can be increased or decreased in accordance with their estimated sales. Retailers must make similar plans, for retail sales vary to a considerable extent in accordance with general business conditions. Proper records will show the extent of variation which may be expected.

Purchasing Department Records.—An important phase of planning for the future conduct of a business deals with the activities of the purchasing department, for they must be planned with reference to the general sales plans worked out by the methods just indicated. The task of the purchasing department is to buy the raw materials which will be needed in manufacturing the goods which the sales plan indicates will be sold. The purchasing department must know when each kind of raw material will be needed and in what quantities. In the larger factories and especially those which are in accordance with the plans of scientific management, the planning department informs the purchasing department what materials will be needed. These materials are then bought by the purchasing department. In less thoroughly organized factories there is less careful coordination between sales production plans. For this reason the purchasing department must exercise a considerable degree of judgment in deciding what and when to purchase.

Purchasing department records consist in part of catalogs of various supplying firms and of records of past experience with different suppliers. This department must also keep an exact and up-to-date record of all orders which have been placed, the price paid, and the date of probable delivery.

Purchasing departments buy materials other than those used in direct production of articles for sale. If power is secured from a plant which is a part of the factory, coal and other supplies must be purchased. Replacement parts and lubricating materials must be purchased for machinery. Articles needed for use in the office such as furniture, stationery, typewriter ribbons and the like are usually purchased by this department.

Efficient purchasing of widely divergent types of materials requires a wide knowledge on the part of the personnel of the purchasing department. This knowledge is supplemented by varied records which the department keeps.

Wholesale and retail distributors buy articles from different sources in accordance with the judgment of their buyers or executives. Careful record is made of all orders placed and of complete or partial deliveries made on these orders. Such records are especially needed in well organized department stores which assign a certain amount as the total of purchases that may be made by each department during a certain period; for department buyers must be able at all times to compare the total purchases with the total to be purchased. Retail stores not organized on a departmental basis often have very incomplete purchase records. In fact, many of the smaller stores have nothing but a copy of the order blanks filled out by the salesmen from whom goods were purchased. It is often necessary for such stores to add the amount shown by the different order blanks to secure a total of the goods purchased during a certain period.

Receiving Department Records.—Something of the importance of the records kept by the purchasing department of a business has just been indicated. No less important are the records kept by the receiving department. Naturally, the kind of records kept by this department vary with the nature of the business. Receiving department records kept by a manufacturing company are not exactly like those kept by a retail store. In both cases, however, the records must show what goods have been received, from whom they were received and their condition at the time of receipt.

Frequently the purchasing department sends a copy of all purchase orders to the receiving department or to a separate order department which holds them in its files until the goods arrive. At that time the goods received are checked against the

purchase order or the invoice to see if the goods ordered have been delivered and that the goods received are exactly what was ordered. Some form of inspection of the goods to determine their quality is usually carried out either as a duty of the receiving department or as a function of a separately organized inspection department. In the case of department stores the different buyers usually act as inspectors for they examine all goods received before they are priced and placed in stock. The receiving department usually sends a notice of the arrival of goods so that that department may pay for the goods.

In a great majority of small retail stores receiving records consist simply of copies of orders placed for merchandise. When the goods arrive they are checked against these copies and at the proper time payment is made.

Accounting Department Records.—The various records of the accounting departments may be grouped under a number of different heads. One set of records has to do with the purchase of goods, another with sales, another with expense accounting, and still others with cost accounting and with general administrative functions. Accounting records having to do with the purchase of goods are comparatively simple, for they consist only of a record of bills sent by suppliers and a record of when these bills were paid or when they must be paid. Receiving department records are used by the accounting department as evidence of the receipt of the goods. Many retail and wholesale establishments classify their purchases on a departmental basis. For example, a department store arranges its purchase records in such a way that the management knows the cost of all goods purchased for the men's clothing department, for the furniture department, for the jewelry department, etc. Efficient management demands this degree of subdivision, for a simple statement of the cost of all goods purchased would not give a basis for judging the efficiency of each department. On the other hand, many retail

stores do not subdivide purchase records, for they are in reality buying but one class of merchandise. Factories also divide their purchases into different divisions, but not as minutely as do department stores.

Cost Accounting Records.—One phase of the work of an accounting department is the keeping of such records as are necessary to determine the exact cost of producing the different articles manufactured. In order to arrive at exact cost figures for each article, it is necessary to have exact records of the different elements of cost. For this reason cost accounting involves keeping records which will show the exact amount of labor applied to the production of each unit article and the exact cost of this labor. Such records must also show how much time of each machine was used and the cost of this machine time. Records must be kept which will allow cost accountants to determine how much of the cost of maintaining a factory building should be charged to the cost of producing the article in question, and how much should be allowed for the cost of power. Each article must also bear its fair share of the cost of providing foremen, office workers, and the general executives of the business. To make such exact records available complex systems of accounting methods and forms have been developed, and must be used.

Cost accounting in retail stores takes the form of assigning a proper share of all costs of operating the store to each of the different departments operated. In order to know the part of the total profits made in each department, the exact cost of all goods purchased for the department must be added to the cost of operating the department, and this total must be subtracted from the net sales of the department. Records must be kept which make it possible to assign to each department its fair share of the expense of providing sales people, heat, light, advertising, credit facilities, service departments, and general executive supervision.

Expense Accounting.—A considerable part of the work of the accounting department of any business consists of making proper record of the various expenditures of the business. Proper entry must be made when a sum of money is paid out for any kind of expense, and later some classification or grouping of expense items is usually made in order that some picture of the cost of operating the business may be obtained, and that it may be possible to see something of the cause of the different expenditures. Retail store accountants group the different expenses or costs of operating the business under such heads as rent, heat and light, salaries, delivery costs, advertising costs, credit department costs, and other groups which vary with the nature of the business conducted. Banks use many of the same groups in classifying their expenditures as do also factories, railroads, educational institutions, transfer lines, etc. Certain items are common to all types of business and others to particular types of business. The original record in some cases is a bill received from the company or individual which renders the service. A record must also be made for such items as the payroll, and for recognition of the fact of spoilage of goods or depreciation of equipment, items for which no bill is rendered by outside firms.

Sales Department Records

Kinds of Records Kept.—The sales department of a factory, wholesale establishment, or retail store keeps certain records which are of value in guiding the activities of the department. The first record having to do with sales is the order blank or sales slip filled out by the salesman. In retail stores a copy of this blank is sent to the cashier or directly to the accounting office, where it is used for several purposes. In the case of charge sales, the copy of the sales slip is used as a basis for posting the debit to the account of the customer. The sales slip is also used in some stores for making

a record of the sales of each clerk, or for posting the fact of the sale of a certain article to the stock cards kept to show the number of units of the article which are on hand. One copy of the sales slip is usually given to the customer when he makes the purchase or when the goods are delivered to his home.

Order blanks filled out by traveling salesmen for wholesalers are used for much the same purpose as are the sales slips made in the retail stores. One copy is given to the purchaser as a memorandum of his order, and one or more copies are sent to the headquarters of the company, where they are used as the basis of orders to ship the goods to the customer, to make the charge to his account, for posting to stock cards, etc. Customers of mail order houses fill out the sales slips themselves, but when the slips are received by the mail order house they are used much as are sales slips in a retail store.

Use of Records by Sales Executives.—One of the principal duties of sales executives is to see that articles carried in stock are selling in proper proportion—that no one article or group of articles is lagging behind in sales. Hence records showing the sales made for each of the principal articles or group of articles carried in stock are necessary. The sales manager of an automobile factory is interested in knowing that a certain model is not selling as rapidly as had been anticipated when the sales plan for the year was made. He must either use some method to stimulate sales of this particular model or ask the production department of the business to reduce production until sales catch up with the anticipated schedule. Retail and wholesale executives need to know when a certain department, toilet goods for instance, is falling behind in its sales as compared with past periods or with the anticipated increase for the current period. Special attention can then be given to this department. Special advertising can be done, price schedules may be changed, or the standard of salesmanship in the

department may be improved. If no records were kept which would show the current situation as to sales in either of the above cases, the facts would be discovered too late. Warehouses would be full of unsold cars of the unpopular model in the one case, and in the other case profits which should have been made by the toilet goods department would be lost, for retail sales lost can seldom be regained. Methods of securing the facts shown to be necessary by the above illustration vary. In general, the sales executives are furnished with copies of orders or with condensed abstracts which summarize the results of sales efforts.

Sales departments of concerns which sell over a wide territory by use of a considerable number of salesmen need certain other facts. They must have records which allow them to evaluate the sales possibilities of each territory to which a salesman has been assigned, for if no standard of performance is available, there is no way of measuring the success of the salesman. The sales of adding machines is a case in point. A city located in a section of the country which is especially prosperous because of industrial activity, or because the farmers have been able to raise large crops and sell them at good prices in recent years, offers a much better field than a city located in a territory where the reverse is true; for the different business enterprises of the one city will need adding machines and will also be in a position to buy them. Hence the sales manager of the adding machine company must either use facts supplied by outside agencies or make investigations for himself which will allow him to judge the relative sales possibilities of cities in different sections of the country. Such facts can be secured from governmental bureaus, from financial papers, and from special agencies which have been formed for the purpose of supplying essential facts to sales managers. It is important to notice that whatever the source of this information it is based on definite facts which are a part of the business records of the community and the nation.

Sales managers also keep other records which allow them to judge of the efficiency of their various salesmen. In addition to judging sales performance as just indicated, the sales managers take into consideration such facts as the length of experience of the salesman, the time he has been with the company, his ability to make collections and his cooperation with the credit department, the percentage of his expenses to his sales, his value in opening new accounts and such other matters as the attitude of his customers to him and his spirit of loyalty to and cooperation with his employers. Records must be kept which will enable the sales manager to review all these facts when questions of promotion, increase in salary, or assignment to a better territory arise.

Sundry other records are kept by the sales department, such as records of returned goods, adjustments made, credit losses incurred, advertising expenditures, results of advertising in certain media, and a number of less important details. It is not necessary to discuss them in detail, but let it be emphasized that the modern sales executive, like all other progressive business men bases his decisions and plans on accurate statements of past experience rather than on "hunches" and by guesswork. Future plans are made on the basis of carefully and accurately ascertained past experience as shown by a variety of business records.

Farm Records.—The farmer business man also uses records but because of the nature of his business he does not usually keep as full and complete accounts as do the business men of the cities. However, it is essential for farmers to record all receipts from the sale of different farm products and to keep a corresponding statement of all expenditures. Federal and state income taxes have been influential in inducing farmers to keep such records, for income tax reports cannot be properly made out unless income and expense items are known.

Many farmers have seen the value of record keeping and have gone farther than is required by income tax necessity. Many now keep a somewhat accurate account of all expenditures for seed, fertilizer and labor in raising the different crops, and compare the incomes received with the expenditures made. This system has been of great aid in showing farmers what crops are most profitable for particular farms and for particular sections. Dairy farmers have even gone so far as to record the total amount of milk produced by each cow and to compare the butter fat content of the milk of each cow with the total pounds of milk produced. In this way it can be determined which cows are most profitable. Records are often kept of the amount of labor and feed necessary to fatten a certain number of hogs or beef cattle. Many farmers, however, keep only a minimum number of accounts for in most cases the proprietor of the farm works in the fields for many hours each day and is reluctant to devote time to keeping records of expenses and receipts. There is, however, an increasing realization of the importance of record keeping which will perhaps result in a recognition of the value of this phase of farm management.

Farmers are also affected by records kept outside of the business. For example, a farmer can use more intelligent judgment in his decision as to whether or not to sell or hold wheat if he knows the total wheat production of the world. Government and private bureaus supply him with pertinent figures, and on the basis of his past experience he can decide whether or not to hold the wheat. Records of exports and imports of the crops he raises are of interest to the farmer as are the predictions of outside agencies relative to the future scale of prices. All predictions of this kind must be based on both current and past records.

Accountants' Reports.—The two principal summary reports made by accountants to the executives of a business are

known as the balance sheet or statement of assets and liabilities and the statement of profit and loss. The former is a condensed statement showing what is owned by the firm and what it owes to others. It therefore shows the financial situation of the firm in that liabilities can be easily compared and contrasted with assets. Such statements usually group the different assets on the basis of whether they are permanently invested in the business, as for example buildings or machinery, or whether they are of a temporary nature, such as accounts receivable or cash. Liabilities are usually classed as long time and short time. The former consists of bonded indebtedness and other liabilities which need not be paid in the near future. Promissory notes and unpaid expense items are the principal illustrations of short time liabilities. Because of this classification the executives can easily see what debts must be paid in the next business period and what current assets are available for the payment of these liabilities. The balance sheet thus presents a view of the true financial situation of the business.

The other principal report made by accountants is the statement of profit and loss. This is taken from the various accounts which show the different ways in which profit was made by the business and the amount of profit made. This report also lists and classifies all expenditures showing the amount spent and the reason why it was spent. The net profit from the operation of the business is obtained by subtracting the total expenses from the gross profits made. By analyzing this statement the business executive knows the profit or loss which results from the operation of each part of his business and thus has a basis for making such changes in his plans as seem to be wise or necessary.

Charts and Graphs.—An increasingly important type of business records are graphs and charts which are now used by business men to a considerable extent. By showing a certain

relation between two sets of facts in graphic form it is possible to give a more distinct impression of the actual situation. A general statement that more goods were sold last year than this year does not mean as much as a chart which shows by means of parallel lines the difference in sales. Tables of figures which are in themselves very unattractive take on life when they are put in chart form. A certain company, for example, wished to show the increase in coal mined by the company. Instead of showing a set of figures which would mean but little the company showed a coal car in a mine tunnel for each of three years. The relative size of the coal cars showed very distinctly the increase in tonnage. An interesting chart recently published translated the rather dull fact that a certain farmer had broken the world's record in potato production by producing 962 bushels from an acre of ground. The chart showed what this meant by picturing an immense potato 20 feet long, 11 feet high, and 11 feet thick. This was shown to be large enough to serve as a neat summer cottage. A recent advertisement stated that the horse power of the 11,000,000 automobiles which have been built by a certain manufacturer was equal to 25 times the total water power developed in the United States. A graphic reproduction of that fact made the comparison very easily understood. The possibilities of picturing business facts by use of charts is being rapidly recognized and a considerable amount of skill in their production has been developed. Such charts are an important part of business records.

Records Outside the Business.—A number of governmental and private agencies keep records which individual business men can use to advantage. Trade associations gather statistics of production for the industry as a whole and make these figures available for use by the members of the association. These business men can often plan their own business

more intelligently if they know what other firms are doing. Associations often collect and disseminate cost figures which can be used by members in comparing their own costs of production or distribution with the costs of other manufacturers or merchants similarly situated. For example, by studying the cost figures made available by his national association a hardware merchant is able to compare his delivery or credit or advertising costs with what has been determined by the research of the national association to be standard or average costs for these items. He is thus able to judge the efficiency of his operation in these phases of the business.

Governmental bureaus have a vast store of information which can be used by individual business men.[2] Records of past and present business conditions and of specific facts are part of this information. The bureau of the census, for example, collects many facts and makes them available for the use of business men. The Department of Commerce through different bureaus maintains records of exports and imports of all commodities. Records of the Bureau of Forestry show many facts of value to the lumber industry. Other departments of our government, state and national, have records the importance of which is not realized by many business men.

In recent years business research has made generally available a number of the most important types of business records. Research activities are conducted by private interests such as trade associations, publishing houses, banks, railroads, chambers of commerce and individual business men, and by colleges and universities which represent the public interest in business research. However conducted, business research is primarily concerned with the discovery of facts. These facts may be applied to either production or distributive processes or to the problems of facilitating agencies of business such as banks and insurance companies. A number of universities maintain

[2] See Chapter XXVIII.

bureaus of business research. One of their principal activities has been gathering statistics which show the cost of operating some of the principal types of retail stores. The results of such research have been made public and can be used by both merchants and the general public in studying how the costs of distribution may be reduced.

Other lines of research have shown something of the wastes in both production and distribution and have indicated methods which may be used to reduce these wastes. Certain psychological studies have been made by bureaus of research which aid in studying problems of advertising and salesmanship and in personnel work. Standard accounting systems which aid merchants in reducing wastes have been developed by certain of the bureaus of research. Other lines of research activity are rapidly being developed, and it seems probable that business men will receive a larger measure of help in the future than in the past from research activities conducted by their own organizations and by the public through certain institutions supported by taxation and by special contributions. All research is based on records, for true research demands an accuracy which can be obtained only from carefully kept records. The results of research activity become a valuable part of general business records.

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CHAPTER XXVI

RISK AND RISK-BEARING INSTITUTIONS

Introduction.—All businesses, regardless of type, are subject to a great number and variety of risks. The assumption of these risks constitutes one of the indispensable functions of business. While some of them may be shifted to specialized risk-bearing institutions, the insurance companies, others cannot be so shifted, and the losses which may result are one of the costs of business enterprise. Even in the case of those risks which can be shifted to insurance companies, the premiums paid add by so much to the costs of doing business. Moreover, it should be noted that the shifting of risks to an insurance company while it may minimize the loss to the insured resulting from a contingency such as a fire, nevertheless does not relieve society as a whole from the loss. Indemnifying the insured cannot replace the goods destroyed and society is the poorer through a reduction in the stock of economic goods.

Insurable Risks

Fire Insurance.—Fire is an ever-present hazard to which all businesses are subject and the possibility of heavy fire losses makes fire insurance one of the most common of the many forms of business insurance. It must not be assumed that such insurance relieves the business man of all possible fire hazard. The fire indemnity received rarely compensates his business for all of the losses sustained through fire. Ordinarily, the indemnity compensates at the most for the actual value of the physical property destroyed; whatever loss may come from temporary cessation of business resulting from the fire must be assumed by the insured himself, and these losses may be

very great. Much anticipated profit may be lost or competitors may seize the opportunity to build up their business at the expense of the firm whose operations have been curtailed or entirely stopped as the result of a fire. Since the premiums paid for fire insurance protection vary with the degree of hazard to which the property is subjected, the business man frequently finds it to his immediate financial advantage to reduce the risk of fire losses through the adoption of structural safeguards and fire protective devices.

Tornado and Earthquake Insurance.—Natural occurrences such as tornadoes and earthquakes occasionally result in property losses to businesses and to individuals. While insurance against such losses is by no means universal, nevertheless recent disastrous visitations have given considerable impetus to the movement to secure protection against these losses through the negotiation of insurance.

Other Forms of Property Insurance.—The loss or destruction in whole or in part of goods in transit constitutes another of the contingencies which may bring loss to business. The indemnity paid by insurance companies or by transportation companies in the event of damage to or loss of goods in transit, like the indemnity paid in the event of fire losses, rarely compensates the insured to the full extent of such losses. The anticipated profits of the buyer are frequently sacrificed, and the measure of inconvenience occasioned and the costs of prosecuting claims, add to the burdens resulting from losses of goods in transit. In some cases losses or damage to materials, supplies or parts necessary in production interfere seriously with production programs and the profits sacrificed far outweigh any indemnity paid either by the transportation company or by the insurer.

As we have seen, railroad and express companies assume responsibility for losses of or damage to merchandise while in

transit.[1] Nevertheless, business men often insure such shipments, since they are thereby relieved of the trouble and expense of prosecuting claims and moreover secure more prompt settlements in the event of losses. Shipments of merchandise by parcel post are commonly insured against losses through the payment of a small premium. Since marine transportation companies assume the responsibility for only such losses as result from their own negligence and not from those which result from the perils of the sea, it is customary for either the shipper or the consignee to negotiate insurance. In view of the fact that marine transportation often involves long distances and much time, the losses resulting are frequently much in excess of the value of the goods f.o.b. shipping point. Heavy transportation costs are often involved and, in addition, profits sacrificed and losses due to delays are usually greater than in those cases where lost or damaged shipments are replaced promptly. Such considerations have led to the valuation of property for marine insurance purposes at figures in excess of the f.o.b. shipping point value, but even here, it is questionable if indemnification on the basis of such valuations usually compensates for all the losses to which the insured is subjected.

The farmer business man, in addition to many of the property risks of his city brother, is subject to the possibility of loss through such natural occurrences as hailstorms and windstorms, which sometimes result in a partial or complete loss of a growing crop. In those sections of the country where hailstorms are of frequent occurrence and sometimes bring heavy crop losses, it is not uncommon for farmers to negotiate insurance indemnifying them against such losses.

Many other contingencies of an insurable character resulting in property damage, exist as a menace to the profitability of business operations. One insurance company writes approximately 90 different kinds of insurance, a majority of which are forms of property insurance. Enough has been indicated,

[1] See Chapter XXIII.

however, to show that provision against such risks constitutes one of the important responsibilities of the business man.

Risk of Death of Executives.—Business sometimes suffers losses through the premature death of important executives. An executive whose knowledge and ability are necessary to the successful conduct of the business may die at a time when no substitute has been trained. Such a risk of loss may be met by a policy which involves the continuous training of substitutes for all important executives. It may also be met through the negotiation of an insurance policy on the life of such an executive or executives with the business as the beneficiary. Upon the death of the executive, the business receives a sum of money which indemnifies it, at least in part, for the loss of executive ability. Whether or not a particular business should effect insurance on the lives of executives is open to question, but no one can doubt the desirability of combining with such insurance a plan of training substitutes to minimize such losses.

Partnerships sometimes lessen the risks resulting from the death of a partner through the insurance of each partner either for the benefit of the business or of the other partner or partners. The death of a partner may bring serious embarrassment to the surviving partners. The credit and capacity of the deceased may have been vital to the business. Furthermore, his death may further embarrass the surviving partners since it may result in the withdrawal of capital at a time when such a shrinkage in capital is disastrous. The effect of partnership insurance is to relieve surviving partners of such losses and embarrassments.

Risk of Theft.—Theft by employees or by outsiders constitutes a hazard to which all businesses are subject. Losses through theft and defalcation of employees may be minimized by arranging for the bonding of employees by surety companies, the effect of which is to make the surety company liable for losses resulting from theft by employees. The practice

of requiring bonds for employees is largely limited to employees whose work necessitates the handling of funds or who have access to funds. Losses due to theft by employees may be reduced by the employment of company detectives and by the adoption of such a system of handling goods and recording transactions as will reduce the opportunities for theft. The transfer of goods and valuables under signature, the employment of a careful sales system, the maintenance of adequate stock records and the frequent check of stocks against such records are examples of systems adopted, in part at least, for the reduction of theft.

Company detectives, the installation of burglar alarm systems, and adequate storage facilities are representative of the devices employed to reduce the losses due to thefts by outsiders. Burglary insurance may be carried to eliminate or to reduce the losses due to theft by outsiders. The effect of such insurance and the bonding of employees, however, while it may relieve the insured from losses resulting from dishonesty, merely represents the shifting of the losses to an insurance or surety company and does not eliminate the social loss. These losses in the aggregate must be borne by the consumer in higher prices.

Varied Risks.—The risks attending the ownership of real estate, such as possible defects in title and possible liens and incumbrances against the real estate held, are assumed by businesses and individuals. Title insurance may be effected which protects the owner of real estate against the losses resulting from the contingencies mentioned.

The extension of credit to customers is a common source of loss to business. The burden of such losses may be shifted in part to credit insurance companies. Such companies, however, issue policies only to manufacturers and wholesalers. Policies are not issued to retailers and certain lines of trade are considered too hazardous to warrant the issue of policies.

Credit insurance policies, moreover, can never indemnify the insured to the full extent of his losses, and the effect of the contract is to force the insured to share with the insurance company the responsibility for carrying the loss. Under these circumstances, the only way in which a business man can keep his bad debt losses at the minimum is to exercise care and good judgment in his credit extensions and in the collection of accounts.

Accidents to employees while at work are a source of loss to employers not only through the resulting loss of services, but because the employer may become liable to the injured employee for damages. Liability insurance furnishes the device by which employers shift the risk of such losses. Both state and private insurance companies write liability insurance, and in many states most employers are practically forced to carry such insurance. Since the cost of this insurance to the individual employer depends in part upon the accident losses in his plant it is to his immediate financial interest to reduce all such accidents to the minimum.[2]

Accidents to outsiders due to the negligence of employees, such as truck drivers, may result in suits for damages being brought against the employer. Under the law, the employer is liable for torts or damages where the cause lies in the negligence of an employee. Liability insurance is commonly employed to care for such risks. In order to keep these losses at the minimum, however, it is necessary for the employer to exercise every care in the selection, training and supervision of employees.

Whenever a business man adds to his plant by constructing additional buildings, he assumes the risk that the contractor may fail to carry out the terms of the contract, and this may result in a heavy loss if the contractor is not financially responsible. In order to provide against such a contingency, it is customary for business men to require that construction con-

[2] See Chapter XX.

tractors furnish bond. In the event of non-performance, the surety company issuing the bond is responsible for all losses up to the amount of the bond as a maximum.

Non-Insurable Risks

Introduction.—In addition to the many business risks which can be shifted to insurance companies there are, as has been indicated, a large number of risks which cannot be so shifted and which must be borne in whole or in part by the individual business enterprise. The extent to which the business man meets and reduces such risks by careful planning and good business judgment is a measure of his efficiency. Not to reduce such risks to the minimum often results in business failure.

Risks Due to Price Changes.—The general level of business activity is constantly changing and with this change go fundamental changes in the level of activity in particular trades. In fact, the change in the general level is merely a reflection of the changes in the aggregate of particular trades. Such changes must be met by a careful study of the trend of business and by the adjustment of manufacturing, financial, purchasing and sales programs not only to the present status of business, but to its probable future status. In their study and analysis, business men are assisted by a number of agencies, private and governmental, whose services may involve a statement of the present status and of past and possible future trends of business in general and of his own trade in particular. Supplementing this information furnished by outside agencies, the business man must bring to bear the most careful analysis of his own business, past and present, an analysis which calls for an adequate record system.[3] By comparing his own business experience with that of his trade, to related trades, and to

[3] See Chapter XXV.

business in general, he is in a better position to measure the probable future of his own institution.

The fact that business forecasting is not an exact science and that no one can read the future with assurance does not relieve the business man from the necessity of making judgments as to possible future trends. Every business must make plans for the future. Systematic analyses furnish a sounder basis for planning than do haphazard and chance judgments. It is true that however carefully one may lay his plans, unforeseen price changes are a fruitful source of loss. Declines in price may lower the value of materials and stocks on hand while unexpected price advances may find the business man with small stocks and a plant inadequate to care for the increased volume of business which is to be had. In the one case, the business suffers an actual loss; in the other it sacrifices a possible profit. While careful planning may decrease such losses it cannot eliminate them entirely. It is the part of good business judgment, however, to be prepared to meet such losses without subjecting the business to excessive strains and possible failure. Good financial practices, not only in the issue of securities and the negotiation of loans, but in the building up of adequate reserves during periods of prosperity, enable an enterprise to "weather" a period of dull business and low prices.[4]

Some authorities attribute a part at least of the difficulties in which the farmers found themselves in the years 1920 to 1925 to the fact that during the period of high war prices immediately preceding, many farmers not only failed to build up reserves, but increased their difficulties by incurring heavy debts through the purchase of land at very high prices. This indebtedness, naturally, became a very heavy burden in the succeeding low-price period.

Many manufacturers lessen the chance of loss through a decline in the prices of their products by manufacturing only

[4] See Chapter XVI.

such goods as are represented by booked orders. Risks may be further decreased by combining manufacturing to order with the practice of limiting purchases of materials to those necessary to the production of goods already sold. It should not be inferred that such practices are at all general or that manufacturers should operate strictly on such a basis since the cost of raw materials, as well as the manufacturing costs, might prove excessive. Moreover, sales efficiency might be seriously impaired since promptness in delivery may constitute a major sales advantage. However, production to order is a characteristic of certain trades, particularly where each purchaser has individual and specialized needs. The practice, while it may have its origin in the specialized and particularized needs of the buyer, nevertheless does operate to reduce the risks of losses to manufacturers, since declines in prices of either materials or products do not result in such heavy losses as are experienced where manufacturing is largely for stock and in anticipation of sales and where heavy purchases of raw materials are characteristic. It should be noted that these practices in the purchases of raw materials and in manufacturing, while decreasing the risks of the manufacturer, may correspondingly increase the risks of purchasers, since the latter must assume the risks of price changes. The total price risks involved in both the manufacturing and distribution of the goods may remain unchanged.

Contractors in the building trades minimize the risks caused by fluctuating material prices by contracting for the purchase of the necessary building materials as soon as they have entered into a construction contract. The farmer who enters into a contract with a beet sugar refiner or with a canner for the sale of his crop is engaged in shifting a risk to the buyer, who accepts the chance of profit or loss through possible changes in prices in the interim between the making of the contract and the receipt of the crop. Mining companies enter into contracts with large buyers under which the latter agree to take

certain tonnages at prescribed prices. Such contracts operate to lessen the speculative character of mining operations and may at the same time represent conservative practice on the part of the buyer. The buyer's purchases may result from a desire to provide materials for the production of goods which have been sold for future delivery. Hedging represents a device by which business men, operating in trades where there is an organized future market, may decrease the speculative risks involved in holding unsold lots of either raw materials or finished products, or by which business men who have sold goods for future delivery may protect themselves against the rise in price of raw materials and at the same time eliminate the costs incident to the immediate purchase and storage of these materials.[5]

Changes in the Wants of Consumers.—Changes in the wants of consumers may bring serious losses to a trade. Many carriage manufacturers were ruined by the advent of the automobile and those businesses which survived the change were, in the main, those which adapted themselves to the new development. Some carriage manufacturers became automobile manufacturers while many others engaged in the production of automobile parts. Style changes, which are constantly occurring, bring with them possibilities of profit or loss. A sudden vogue for gingham dresses may bring great prosperity to gingham manufacturers while the silk manufacturing industry may suffer a temporary depression. A succeeding dominance of silk fabrics may reverse the situation. The ostrich farms of South Africa have experienced a succession of booms and depressions with changes in fashions. Manufacturers, wholesalers, retailers and related industries find in style changes possibilities of profit and loss and only through the most careful study and planning can they magnify the profits and minimize the losses. Visits to market, the study

[5] For an explanation of hedging see any standard text on marketing.

of trade publications, and subscription to style information services are means employed in style analysis. Retailers reduce style risks by carefully controlling the amount of stocks carried and the limitation of stocks to the more immediate demands of their trades. Timely sales efforts in the forms of advertising, display and personal salesmanship may reduce losses on style goods by promoting their speedier sale. Regardless of the efforts made, sharp decreases in value because of style changes are inevitable in all businesses where such goods are handled, and only careful financing, style analysis, planned merchandising and careful stock control can decrease the losses and increase the profits in such trades.

Changes in Production Methods.—Changes in production methods and in the machinery used in production present possibilities of profit or loss. The manufacturer who is alert and open-minded may, by the prompt adoption of such changed methods or the early installation of new and improved machinery, gain an advantage over his slower competitors. Such changes, however, may involve heavy expenditures of capital, as when a hand process is supplanted by a machine process or when costly machinery is discarded for newer and more efficient machines. In providing the necessary capital difficulties are sometimes encountered and the faliure to command the capital may place a business man at a great disadvantage. Adjustments to changes and the adoption of improved machinery and devices are facilitated by a financial policy which involves the setting up of proper depreciation reserves. This involves the accumulation during the estimated lifetime of a machine of an amount sufficient to replace it.

Changes in Distributive Methods.—Changes in distributive methods, like changes in production, add to the burden of risks which business men must bear. Wholesalers may find their business menaced by the practice on the part of certain

manufacturers of selling directly to the retail trade, or by the development of chains of retail stores maintained by manufacturers. Independent retailers have had to face such fundamental developments as the chain store, the mail order house, and the department store. Distributors in general have had to meet the problems growing out of the development of advertising.

Changes such as these force business men to make changes in their own business methods and policies. Adjustment sometimes involves the adoption of the newer method, as when the independent retailer establishes a chain of stores in order to meet the competition of other chains, or when the wholesaler establishes his own retail outlets in order to meet the competition of a manufacturer's chain of retail stores. In other cases, adjustment is effected by copying some of the newer policies and methods without fundamental changes in the character of the business. For example, the small-town retailer may undertake advertising in order to meet department store competition, or may copy the liberal returned goods policy of the mail order house in his effort to meet the competition. The past 50 years have witnessed tremendous changes in distributive methods. Advertising has become a great force in distribution. Newer types of distributors have arisen to complicate marketing problems. Those enterprises which have made prompt adjustments have reaped a rich harvest while those which failed to adapt their methods and policies to changed conditions have suffered heavy losses.

Changes in Location.—Business locations are subject to constant change. Sites once valuable for the conduct of particular businesses through such developments as population shifts and the exhaustion of raw material supplies, become more valuable, less valuable, or entirely unsuited for their original uses. Business men must meet changes in the conditions surrounding locations either by moving or by changing

the nature of their business to bring it into harmony with new conditions. Glass manufacturers have followed the development of natural gas fields and have been forced to move with exhaustion of local supplies. The exploitation of the Lake Superior iron ores caused a westward shift in iron and steel manufacturing. The development of the livestock industry of the Mississippi Valley, particularly in the states west of the Mississippi River, created a meat packing opportunity at Chicago and Kansas City. The westward movement of the center of population in the United States has led many manufacturers to move from the east in order to be closer to their markets. New York City, once the center of the dry goods jobbing trade, declined in importance as a jobbing center with the westward movement of population.

Cities are growing constantly and centers of retail activity shift with population movements. Locations from which retailers could once serve an exclusive clientele become suitable only for stores making a popular appeal. Retailers, like manufacturers and jobbers, must study their locations with great care and adapt themselves to these changes. Adaptation may be effected by moving, or the retailer may have to change the nature of his merchandise, modify his appeal, or alter his merchandising and advertising policies.

In this country, because of the rapid development and constant changes in business, the risks of business enterprise have been unusually great, although the very conditions which have magnified the chances of loss to the unwary and careless have furnished the opportunity for the development of great business successes. While many of the risks can be shifted to insurance companies, there are many risks which must be borne in their entirety by the individual business man. Even in the case of insurable risks it is to his financial advantage to keep the losses at the minimum. Business success depends in large part upon the skill and judgment with which risks are borne and no insurance development can free the business man from

the necessity of bringing good judgment to bear on the solution of his problems.

Personal Risks

Types of Personal Risks.—The individual in his private capacity, like the business man, is subject to contingencies which may bring substantial losses and financial embarrassment. Like the business man, while he may shift many of his risks to insurance companies, he must also assume the burden of many non-insurable risks.

The possibility of the death of a wage-earner before he has accumulated an estate for the maintenance of his dependents is one of the major risks of the individual. Life insurance furnishes a device by which the insured immediately creates an estate for the care of his dependents. Life insurance may also furnish the basis for provision against the possibility of old age dependence, since life insurance protection may be coupled with old age benefits for the insured. Practically all forms of life insurance provide against old age dependence through a provision in the policy under which the insured may surrender the policy and receive a cash payment in return. This cash surrender value increases with the time that the policy has been in force. The surrender of a policy for cash is not to be generally recommended, however, since the death of the former policyholder may result in his dependents being left without support.

Financial losses due to sickness and accidents may be provided for in part, at least, by carrying sickness and accident insurance. In some cases employers provide sickness and accident benefits and even life insurance for their employees, but such provision is rarely adequate to compensate the individual to the full extent of the loss suffered. Ordinarily, the individual must supplement such insurance with insurance privately contracted and paid for.

Losses from fire, burglary, and from acts of nature such as tornadoes, are other types of private losses which may be covered by insurance. Individuals may provide against the financial losses due to such of their acts as result in damages to others by carrying liability insurance. The automobile driver, for example, is constantly subject to the risk that he may injure the person or property of someone and become liable for damages as a result of his own negligence. Liability insurance furnishes protection against such losses.

Only the exercise of good judgment can reduce such losses as the investment losses of the individual. Insurance is never a substitute for judgment. Not all contingencies which bring loss can be covered by insurance and even in the case of the insurable contingencies, the indemnity received rarely compensates for the financial losses in full.

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CHAPTER XXVII

BUSINESS MEN'S ASSOCIATIONS

New Standards of Competition.—One of the distinctive characteristics of present-day business is the extent to which business men are associating themselves in the effort to solve their common problems. Competitors formerly looked upon one another with suspicion and guarded their methods with great care. They believed that to disclose any of their ideas or plans would put them at a disadvantage in the competitive struggle. Competition was on a relatively low ethical plane, and it was believed that the disclosing of so-called trade secrets would only stimulate unfair competitive methods. There was little or no appreciation of the fact that business men, even competitors, have much in common and that only by exchange of ideas and facts can they make progress in the solution of these problems.

Today business men realize that through association with one another and through the interchange of ideas and information they can better meet the problems which confront them. Competitors have come to see that they have common problems in such matters as labor relations, the purchase of material and supplies, the determination of the present status and probable future of the industry in which they are engaged, and other pertinent problems.

In the matter of labor relations, competitors now know that unless they associate themselves in meeting such problems as increasing labor efficiency they may be placed at a competitive disadvantage as compared with those who are more progressive. All industries are in a sense competitive in that each competes for the patronage of the consumer. If, for example, the apple growing industry suffers from great labor ineffi-

ciency, the resulting high prices of apples may induce the consumer to buy fewer apples and more oranges.

All the producers or distributors of particular commodities have a common interest in the status of the industry and its possible future trend. If the industry is not holding its own in the matter of sales and if indications point to a probable decline in sales in the future, the producers and distributors of these commodities will benefit greatly by such information as will enable them to adjust their business to such changed conditions. Cooperation of those engaged in the industry may constitute the only means by which such pertinent information may be made available.

Business men have come to realize that the success of the individual depends in part upon the success or growth of the industry as a whole. The individual orange grower now sees clearly that his success is dependent not only upon his efficiency in production, but also upon such a demand for oranges as will enable him to sell his product at a good price.

New Standards of Ethics.—Not the least of the advantages of the association of business men, whether it involves competitors or non-competitors, lies in the effect of such associations in raising the ethical standards of business. When a man meets freely with his competitors and joins with them in the development of a definite business men's association, he is less likely to resort to unfair competitive methods than where he keeps to himself and suffers from the suspicion which is fostered by isolation. The association of business men tends to raise the level of competition through the change in attitude that inevitably accompanies such association. In addition an association may, through a frank consideration of abuses, formulate such a code of business conduct as will either through agreement or as a result of the enactment of legislation materially raise the competitive plane.

As we shall see, these associations of business men take

a great variety of forms, but whatever the form, they constitute today one of the most effective means for the promotion of higher standards in business, professional, and social life.

Trade Associations

Introduction.—One of the outstanding types of business men's organizations is to be found in the trade association which, unlike many other forms of business men's organizations has a membership made up only of business men in the same line of industry. Some trade associations are purely local in their scope, while others operate on a national basis. Their activities vary with their type. In some cases the activities are largely political, and the basis of organization is to be found in a desire to promote favorable legislation and to present strong opposition to such as is unfavorable. Other associations have comprehensive activities the conduct of which necessitates a substantial financial budget.

The Southern Pine Association.—The Southern Pine Association represents the type of trade association that has developed a comprehensive program of activities. The membership is made up of logging and sawmilling interests operating in southern pine lumber. Membership is open to any such enterprise which will comply with the regulations of the association and will pay the membership fees. Fees in this case are determined by the output of the member company, so much for each thousand board feet of lumber cut. It may be remarked that in the case of manufacturers' associations, output is a common basis for the determination of association membership fees.

Southern Pine Association Activities.—The headquarters of the Southern Pine Association are located in New Orleans, where a considerable staff of employees is maintained. One

of the services which the association renders its membership takes the form of the collection of certain basic statistics from its members, such as production, current sales, shipments, and orders booked. These data are compiled in the New Orleans office, and a report is sent periodically to each of the member companies. In this way each member has placed in his hands certain basic information concerning the southern pine lumbering situation which he could not otherwise secure and which is of great value to him in the conduct of his own business. The association, like many other similar associations, cooperates with the Bureau of the Census in furnishing to the latter a special monthly report upon production and stocks of lumber, which is published by the Census Bureau in the federal government's "Survey of Current Business."

In addition to the statistical service of the association, it has given its members assistance through the development of accounting systems adapted to the needs of the lumber industry. It has also employed technical experts to render assistance not only to the membership, but to architects, engineers, and builders using lumber in construction and manufacturing.

The association has long been engaged in scientific research along many lines. In cooperation with the Forest Products Laboratories, careful study has been made of such matters as the uses of pine lumber, by-products utilization, and the kiln drying of lumber, and the results of such studies placed at the disposition of the membership. Studies in kiln-drying practices have resulted in the development of methods which have substantially decreased the amount of shrinkage and checking of lumber. Much of this research has been so costly that single firms could not have borne the expense.

Trade Promotional Activities.—One of the most interesting phases of the work of the association lies in its trade promotional work. Approximately 50 books and pamphlets designed to increase the sale of southern pine lumber have been

issued and distributed. Nearly 300,000 copies of one book—"Modern Homes"—have been distributed to prospective home builders. Other books, such as "How to Plan, Finance, and Build your Home" and "Southern Pine Garages and How to Build Them," have been issued with the purpose of increasing the sales of pine lumber. Further inducements to prospective builders have taken the form of the sale of building plans at nominal prices, architectural advice, and so forth.

Much periodical advertising in behalf of pine lumber has been done, while a publicity department has been developed to create friendly public opinion for the association and the industry at large, by furnishing through the press and by other means news and information designed to build good-will. Other trade promotional devices have taken the form of the distribution of wall hangers and display cards, exhibits at state fairs and at retail lumber dealers' conventions, motion pictures and motion picture slides, lectures, and calendars. Lumber dealers have been encouraged to advertise southern pine to consumers through the distribution by the association of advertising cuts and mats.

Other trade extension activities of the association have to do with the publication of lists of its members in which are shown the classes of stock manufactured by each, plant capacities, railroad locations, etc. These lists are distributed throughout the retail, wholesale, industrial, and railroad trades as a service to southern pine buyers, the purpose being to promote sales.

Through its traffic department, the association has cooperated with the railroads in expediting the movement of freight. The traffic department publishes and distributes freight rate books and negotiates with railroad traffic officials in the effort to secure equitable rate adjustments.

An inspection service has been built up and made available to both members and non-members. This service requires maintenance by the association of a corps of trained lumber

inspectors for the purpose of determining the grade of pine lumber whenever disputes as to the proper grade arise. This inspection service is made available to all applicants who are willing to pay the modest fees charged.

Promotion of Standardization.—One of the most noteworthy of the activities of the association from the standpoint of both the trade and the general public has been in connection with lumber standardization. In cooperation with the United States Department of Commerce and with other lumber interests and associations, the Southern Pine Association has assisted in the standardization of lumber sizes, grades, and trade practices. This standardization has resulted in an actual reduction in the number of sizes of lumber manufactured. Many sizes and widths of lumber had been manufactured simply to meet the whims and fancies of buyers. Many of these sizes were without economic justification, and their elimination and the concentration of production and distribution on a smaller number of sizes should result in substantial reductions in manufacturing and distributive costs.

The grade marking of southern pine lumber has been developed and encouraged by the association. Grade marking involves the stamping of the grade on each piece of lumber. Such a practice is a great protection to buyers since it gives them substantial assurance that they are getting the grade actually paid for. Honest distributors are protected, since they are freed from dishonest competition, which has at times taken the form of the delivery by unscrupulous dealers of grades lower in quality than those contracted for. It is said that many times dishonest dealers have underbid their honest competitors, counting on delivering lumber of a lower grade than that specified.

Miscellaneous Activities.—Some of the many other activities of the association are:

1. The maintenance of a Rail and Equipment Department to facilitate the exchange of second hand logging railway equipment and sawmill supplies.
2. The development of the Blue Book Credit Rating Service to furnish credit information about lumber buyers.
3. The creation of a taxation committee which gathers data to assist subscribers in making tax returns and in establishing fair valuations on lumber for taxation purposes.
4. The maintenance of a forestry committee which cooperates with the states and the federal government in forestry programs and attempts to direct forestry legislation.
5. The creation of a committee on "Cut Over Lands" which has made careful studies of the uses and future possibilities of cut over lands and has been of assistance to the lumber companies in formulating plans for the use or disposition of such lands.

Other Associations of Manufacturers.—It must not be assumed that all or even a majority of trade associations have programs as varied and extensive as those of the Southern Pine Association. The activities of many are distinctly limited in scope. On the other hand, the Southern Pine Association is not alone in the development of an extensive program. The cement manufacturers are engaged in a great publicity campaign and are spending considerable sums of money along the lines of scientific research and the development of a service for cement users. The National Canners' Association has conducted an effective campaign in behalf of canned goods. There is a tendency for trade associations to broaden the scope of their work, although in certain instances they have received setbacks through court orders restraining them from certain activities. They have been restrained, in particular, from the publication of prices realized by their members, which the courts have interpreted as leading to a detrimental modification of competition.

Local Retail Merchants' Associations.—In many communities retail merchants have organized in associations which include all retailers who care to join regardless of the line of retailing in which they are engaged. In some places the association is a branch of the chamber of commerce; in other communities it has no relation to the chamber. In either case, however, the activities of such an association center around the promotion of projects which promise to aid the retailers of the community as a group. Advertising campaigns are carried on, designed to encourage farmers and residents of surrounding smaller towns to trade in the particular city or town. "Dollar Days," when all merchants offer special bargains for one dollar, are an example of this type of activity. "Buy at home" campaigns, which have as their object discouraging purchases from mail order houses and from large city dealers, are frequently supported and carried on by retail merchants' associations. In the smaller towns such associations have been useful in helping merchants to agree to adopt uniform closing hours or to refuse to sell goods on Sunday, and, in some cases, to agree to close all stores on a certain afternoon of the week during the summer months.

Retail merchants' associations often operate a credit exchange bureau. A secretary is employed and an office set up in which a record of the credit standing of every person in the community who uses the credit facilities of the member stores is kept. All overdue accounts, bad checks, and other credit irregularities are reported to the bureau. When any member of the association is desirous of knowing the standing of an applicant for credit, he calls the credit exchange bureau on the telephone and is thus able to pass on the request with more knowledge than would be the case if he were compelled to take the unsupported testimony of the applicant. Such credit bureaus may be operated by special credit associations, but they are frequently a part of the work of the retail merchants' association.

State Retail Merchants' Associations.—There are many state organizations of merchants along trade lines. State associations can do certain things which the national associations cannot do. Conventions are held annually which are addressed by able speakers. Exhibits of merchandise by manufacturers are commonly held in connection with the conventions. Delegates can combine the purchase of goods with attendance at the convention. This phase of the convention is especially attractive to the small-town merchant who does not go to the buying centers to make his purchases. Many state associations conduct either directly or indirectly mutual insurance companies or cooperate in the conduct of such companies by the national associations. Field secretaries are employed by the state associations to secure members for the associations, to pass on to the members new methods of doing business, to hold district meetings of retailers under the direction of the state associations, and to look after the general welfare of the particular line of retailing which they represent. In Ohio and a few other states the various state associations are united into a State Council of Retail Merchants in order to be able to represent the united interests of all retailers. Taxation reform is an example of such problems. A state law regulating house to house peddlers has been backed in some states by such a council. Such state councils will probably be common in the future, for they are logical in that they unite business men of common interests in work for their mutual welfare.

The National Retail Dry Goods Association.—In many of the stronger retail lines, national associations have been formed to accomplish certain definite purposes which cannot well be accomplished by either local or state associations. Typical of these associations is the National Retail Dry Goods Association, an organization with headquarters in New York City, having a membership of about 2,000 of the leading dry goods merchants of the country. Its object is to help its members

in all phases of merchandising. Specifically, its activities in recent years have been along the following lines: Consumers have been enlightened by means of newspaper stories and other publicity on the retailer's position and problems. The association has helped in securing the elimination of burdensome luxury taxes collected by merchants. Standardized accounting methods for retail stores have been outlined and aid has been given in the installation of these methods. The way to better personnel and educational work in the member stores has been pointed out. Constant protection has been given the members against unwise state and federal legislation. A large merchandise fair has been held which aided visitors in their buying problems.

The association finances each year the collection of data on costs of operating stores. This work is done by the Harvard Bureau of Business Research, but the association pays the costs. In a recent year the association prepared three manuals to help the buyers of toys, kitchen equipment, and furs in the member stores. A study of court decisions relative to itinerant merchants was printed and distributed to the members of the association in order that they might know what protection they have against the house-to-house peddler and the "fly-by-night" type of retailer.

Departmental Organization of the Dry Goods Association.—The National Retail Dry Goods Association sponsors the work of a number of national associations composed of certain types of employees of retail dry goods stores. For example, the educational directors have a national association and hold one convention each year at which the methods and problems of the educational department of a store's activities are discussed and advice is given by successful directors. Similar associations and conventions for traffic men, merchandise managers, store accountants, advertising managers, etc., have been organized. These associations are doing much to make

retailing, especially in the large department stores, more efficient and to reduce some of the wastes which now exist. They are doing much to professionalize retail store employment. Too often the pressure under which the average merchant has to work makes it impossible for him to see beyond the four walls of his store. Membership in his national association puts him in contact with what is being done in other stores and stimulates him to use newer and better methods of retailing.

Although better organized than some other associations, the dry goods association is typical of those which have been organized in most of the leading lines of retail merchandising. Much has been accomplished in bettering the conditions under which retail merchandising is carried on and in the elimination of many of the leaks and losses characteristic of much present-day retailing. There is a great field for such associations in the future, and it is felt that as merchants learn more about how to cooperate and as petty jealousies decrease, the work of such associations will become increasingly valuable.

The American Bankers' Association.—This bankers' association, in addition to other activities, has been active in carrying on educational work. A definite course of study leading to a certificate or diploma has been laid out and under the direction of the association classes attended by bank clerks and minor bank officials are conducted. To complete this course the bankers must attend evening classes regularly for several years.

Organizations of Farmer Business Men.—In general, farmer business men have been somewhat slower in developing associations than have their city brethren. Farm life tends to develop the individual and to emphasize individual characteristics. As a class, farmers have less dependence on their neighbors and on the welfare of their community than have other business men. Hence it has been somewhat difficult for

many farmers to realize that there are definite advantages to be gained by joint action. Some 40 years ago the Grange or Patrons of Husbandry was organized partly as a social or lodge organization and partly as a business or economic association. Too rapid growth and too rapid expansion of its economic activities resulted in a setback. Its efforts to conduct retail stores and other enterprises proved largely unsuccessful. This experience made leadership by forward-looking farmers somewhat difficult. But as the result of the belief of many farmers that their crops were not being marketed efficiently there came a stimulus to the organization of cooperative marketing associations among the farmers. These have been successful on the whole, and have shown farmers that it is possible for them to cooperate for their mutual interest. This accounts for the present importance of cooperative marketing organizations in many parts of the country today.

The American Farm Bureau Federation.—The outstanding farm organization today is, however, the American Farm Bureau Federation, with its hundreds of local county farm bureaus and its thousands of farmer members. In general, the county is the unit of organization in farm bureau work. But in many of the more thickly settled farming regions the townships are organized as local subdivisions of the county bureau. The county bureaus are organized into state bureaus, and these in turn form the American Farm Bureau Federation. These various organizations have carried on a large variety of activities for the farmers, but in general their object has been to improve the social and economic position of the farmer members. To this end they have fostered cooperative marketing, and through the national bureau have organized a number of nation-wide cooperative organizations, especially those in the grain and fresh fruit and vegetable trades. Hundreds of local cooperative associations for the marketing of practically

every kind of farm product have been formed or aided by the farm bureaus.

The American Farm Bureau Federation has been active in securing legislation designed to improve the economic position of the farmer. Proper methods of farm finance have been recommended to the bureau members. The county agent work has been aided and the bureaus have been of especial value in encouraging the work of the home demonstration agents among the farm housewives. The research bureau of the national federation has studied a number of economic problems, such as the tariff and the banking system, which affect the economic status of the farmers. In a recent year the research work included a study of the market possibilities of each of the leading farm crops in the years of the near future.

State farm bureaus have encouraged cooperative organizations and have studied such state problems as taxation and good roads. In one state the state federation conducts a cooperative purchasing agency for farmers. Through membership in county, state, and national farm bureaus thousands of farmers have come to recognize their status as business men and have learned to cooperate in many ways to their mutual advantage.

Summary.—Few great lines of trade are today without their association, and their membership continues to grow as business men see more clearly the great number of common problems which can be met only through associated action. It should be plain that associated activities properly directed are beneficial not only to the members of the association, but to the public in general through the elimination of waste and to the elevation of the level of business ethics.

Associations Based on Occupations

Advertising Clubs.—Local advertising clubs in several hundred cities throughout the world bring together about

30,000 business men who are engaged in advertising in these cities. Among the activities of such clubs may be cited the holding of weekly luncheons at which competent speakers talk on advertising topics, and the general encouragement of better advertising in the communities where the clubs exist. Several clubs conduct night schools where ambitious advertising practitioners and prospective advertising men can learn something of advertising methods. Local educational interests are helped in the conduct of advertising courses. Many advertising clubs carry on the publicity for such community efforts as membership campaigns for the local chamber of commerce or campaigns for raising a community budget for charitable enterprises. One of the most important services of advertising clubs results from the better acquaintance of the advertising men of the community. They learn one another's points of strength and weakness, and as a result it has been found that the standard of advertising carried on in the community tends to improve; for when advertising men know each other they are less likely to violate the code of advertising ethics.

The Advertising Clubs of the World.—The Associated Advertising Clubs of the World is an international organization with a membership of 313 local advertising clubs. While most of these clubs are in the United States, twelve countries altogether are represented. The principal object of the organization is the stimulation of efficient advertising of all kinds. In the accomplishment of its objects, a number of special lines of activity have been developed. One of these is the "Truth in Advertising Movement," which has done much to eliminate untruthful advertising. Standards of truth in advertising have been set up and their adoption by advertisers and advertising media has been encouraged. In some 40 cities the Associated Clubs have cooperated with local advertising clubs and chambers of commerce in the organization of Better Business Commissions, whose duty it is to discourage untruthful advertising.

They do this by pointing out violations of the advertising code of ethics directly to the advertiser or to the public when necessary. Persistent violators of the code of truthful advertising are prosecuted in the courts.

The Advertising Clubs of the World sponsor the work of some 25 departmental organizations which have been developed to further the work of special types of advertising. For example, the poster and billboard interests have formed a separate national advertising organization which is carried on as one of the departments of the Associated Advertising Clubs. Other departments are devoted to the interests of direct by mail advertising, the agricultural publishers, the publishers of business papers, church advertisers, retail advertisers, community advertising, etc. By studying the problems peculiar to each department, the officials and employees of the associated clubs have been able to render definite service to the special interests represented. Each of the departments holds at least one convention a year.

The Associated Advertising Clubs of the world have also served the business interests by carrying on educational activities, such as the operation of schools of advertising in cooperation with local clubs, and, by furnishing qualified speakers for advertising club gatherings. Publication of valuable books on advertising has also been encouraged by the clubs. Annual conventions of the Associated Clubs, which are attended by several thousand business men directly interested in advertising, are among the most potent forces making for better advertising. A recent convention held at London did much to promote international good-will and to add to the sentiment for the abolition of war.

Organizations of Credit Men.—Among the most active of the national organizations of business men are two associations of credit men. One, the Retail Credit Men's National Association, has a membership of 11,000 managers of the

credit departments of retail stores. National conventions are held at which papers are presented and addresses are made on topics of interest to credit men. Many ideas are gained from the convention addresses and round tables, and in addition members who attend the convention benefit by the experience of other credit men with whom they become acquainted. The national association sponsors the organization and conduct of local associations of credit men. In some cases the local associations conduct credit interchange bureaus either with or without the cooperation of the local retail merchants' association. The educational work of the general association is confined to the publication of a magazine, but local associations have been active in conducting general educational campaigns designed to emphasize the desirability of maintaining one's credit standing, prompt payment of bills, etc.

The other credit association, known as the National Association of Credit Men, is composed of credit managers of manufacturers, wholesalers, and banks. This organization has a membership of 32,000. In addition to holding conventions and publishing a magazine, it has been active in encouraging the credit men of different communities to hold classes which study problems relating to credit. Such classes, taught by competent credit men and others, have been very influential in raising the standards of credit administration. A different phase of the work of this credit association is the operation of 57 credit exchange bureaus which carry on activities similar to those of retail credit exchange bureaus, but serving manufacturers, wholesalers, and bankers. The association also has been active in the organization of 84 adjustment bureaus which are usually carried on as part of the work of the local credit men's associations. These bureaus are operated for investigating the affairs of business houses the credit standing of which is under suspicion and for making reports to the creditors on the basis of these investigations. They also aid the courts in secur-

ing competent receivers in bankruptcy cases, and in general carry on activities to reduce credit losses due to bankruptcy.

Other Associations.—In many of the larger cities traffic men employed by manufacturing and wholesaling enterprises have local associations. Meetings, often in connection with luncheons or dinners, are held from time to time and topics of mutual interest to the traffic are discussed by speakers or by the round table method. By pooling their mutual experiences in this way, traffic men assist in solving one another's problems and at the same time become more efficient.

In some cities sales managers are organized into clubs. Such clubs are often a branch of the chamber of commerce and are supported by it. Meetings are held and in some cases study classes are conducted. There is a national association of clubs of specialty salesmen which have been organized in many of the principal cities.

Professional men of all kinds have local, state, and national organizations designed to assist their membership. Conventions, conferences, and clinics are held under the supervision of the associations. Members of the associations find these meetings very profitable, for at them recent scientific developments are presented and by conferences and round tables the professional men are able to keep up to date in the scientific foundation of their work. Such associations have been of assistance in the development of ethical codes and standards of practice.

General Associations

The Local Chamber of Commerce.—Local chambers of commerce have been one of the most effective forces in American life making for the cooperation of business men in community upbuilding. Definite improvement of physical, social, and economic conditions in the territory covered has been the program of most chambers of commerce, commercial clubs, or

boards of trade. Business conditions have been improved in some cases by inducing new businesses to locate in the community. Certain clubs in large cities, such as Seattle, Los Angeles, Des Moines, and others, have carried on national advertising campaigns in which the advantages of the city were presented to the public. Improvement of physical conditions has often taken the form of encouragement of paving and sewer projects, new school buildings, new business structures, and other betterments. A few concrete examples will show something of the scope of chamber of commerce activities.

One large city chamber recently conducted a campaign of education to reduce the frauds in connection with bankruptcy. A small-town chamber led in the erection of a community gymnasium. In another small town the chamber was active in securing improvements in the hotel accommodations of the village. In one of the state capitals the chamber of commerce led in a city-wide fight to retain the state fair, the removal of which to another city had been proposed. The San Francisco chamber of commerce has recently taken over the operation of a marine intelligence service. A frequent activity for chambers of commerce is financial assistance in helping farmers of the community to develop new projects, such as testing associations, and county agent work. In recent elections many chambers of commerce have been active in stimulating registration and in encouraging voters to go to the polls on election day.

It is usual for the chamber of commerce in a large city to operate a traffic bureau under the direction of a traffic expert. He advises chamber members on their traffic problems and is active in securing proper freight rates for the industries of the city. A different type of chamber of commerce activity is the holding of luncheon or dinner meetings or forums for the membership of the organization. At these forum meetings competent speakers discuss topics of interest to business men, and particular problems of the community, and a general feel-

ing of community loyalty is developed through the increased acquaintanceship of the members attending the meetings and through the cultivation of the community spirit which grows out of knowledge of community problems. In summary it may be said that chambers of commerce and kindred organizations have served to unite the citizens of a community in common projects for the mutual good of the members of the chamber and of the community as a whole.

State Chambers of Commerce.—State chambers of commerce have been formed in a number of states, but with indifferent success. In general their object has been the industrial development of the state. Some magazine advertising has been carried on and efforts have been made in various ways to attract settlers and industries to the particular states represented. This work has no doubt been of value, but because of the difficulty of tracing results it has been hard to raise the necessary funds for that or any other activity of a state chamber of commerce. Lack of definite projects for such associations to carry out and the difficulty of organizing business men into an association which touches them and their interests but rarely, have limited the service of state chambers of commerce.

The United States Chamber of Commerce.—One of the principal national associations of business men is the United States Chamber of Commerce. This organization appeals to business men in all types of industry both manufacturing and distributive. It was formed in 1912 as the outgrowth of a conference called by the President and the Secretary of Commerce to consider methods of uniting the business interests of the country in some common organization which would act as the "voice of American business," that is, as the spokesman for the thousands of local business men's associations in all sections of the country. Organized with this purpose in mind,

the Chamber of Commerce of the United States is based on a membership of over 1,300 local chambers of commerce, which represent over 750,000 individuals and corporations.

The Work of the United States Chamber of Commerce.— To accomplish the purpose of the organization and serve the business interests of the country in a number of ways, the work of the United States Chamber of Commerce is carried on under eight heads, the names of which indicate something of the way in which this association serves its membership. The Civic Development Department aids local chambers of commerce in the development of their communities. In addition it assists by giving the members of the chamber authoritative information on pending political and economic questions. A press bureau is operated to aid in this work. The Domestic Distribution Department carries on studies and research designed to aid in the reduction of the costs of distribution of raw and manufactured commodities and in the elimination of distributive wastes. The Manufacturing Department assists production by furnishing manufacturers with timely information on such problems as cost accounting, simplification and standardization, employee relations, etc. The Finance Department studies, presents opinions upon, and influences action on important questions in the field of public and private finance. The Foreign Commerce Department aids in the development of the foreign trade of the nation and cooperates with American Chambers of Commerce in foreign cities. The Insurance Department studies problems of insurance and aids the membership by distributing bulletins relating to insurance problems. The Natural Resources Department endeavors to stimulate public interest in the proper conservation of natural resources. The Department of Transportation and Communication studies new movements in the field of transportation and assists members of the Chamber in the solution of problems in this field.

The above statement of the work of the eight departments

of the United States Chamber of Commerce indicates something of the service nature of the organization. It serves business in other ways, notably by aiding in the organization of chambers of commerce in cities where there are no such organizations and by protecting legitimate business from unwise legislative attacks. When important legislation is pending, it is the custom of the Chamber to send referendum ballots to its membership and to ask that all members indicate on these ballots their desires relative to the suggested legislation. When such a vote is taken it serves to aid Congress in its decision on proposed legislation, for it indicates the attitude towards such legislation of organized business.

The Chamber also aids business by the publication of a valuable business magazine, "The Nation's Business." In addition to serving as a house organ for the Chamber the magazine gives its subscribers information on important business problems and policies in the form of articles and stories and informs chamber of commerce officials about what is being done by chambers in other cities. It is the consensus of opinion that the Chamber is carrying on a valuable work and that its service well illustrates what can be accomplished by organized business interests.

Luncheon Clubs.—A comparatively recent but important agency for the cooperation of business men is that of the luncheon clubs. The first of these organizations—the Rotary Clubs—was founded only a little over 10 years ago, but so fast has the movement spread that nearly every town in the country of over 2,000 population has one or more luncheon clubs. In the larger cities there are normally about ten such organizations holding weekly noon-day meetings. Other clubs have followed in the main the original purpose of the Rotary clubs, that of bringing together for a friendly meeting leading representatives of each of the principal lines of business and from each of the professions to be found in the city. Mem-

bership is on a classification basis; that is, in the case of Rotary Clubs, only one banker, one lawyer, one dentist, or one retail shoe merchant may belong to the club. Other international club organizations, such as the Kiwanis Clubs, allow two members from each classification. In this way the membership is certain to be representative of the community as a whole because it represents most of the elements which make up the community.

Particular objects of luncheon clubs vary, but in general each club strives to make its community a better place in which to live and transact business, and to aid in carrying on certain charitable enterprises. Luncheon meetings are addressed by speakers on business, economic, social, and moral topics. Projects for community welfare are discussed at the meetings and by the officers of the clubs. Each club as a rule has at least one definite project of this kind each year. One of the most valuable parts of the work of the clubs is in bringing together business and professional men who might otherwise not know each other. Seated at a luncheon table, they become acquainted with each other. They exchange ideas. They gain an appreciation of the work of the other men of the community and sense something of the problems which are characteristic of the other man's business. By rubbing elbows and exchanging ideas with other men each member broadens and enlarges his own thought. The standard of business ethics of the community is raised by such contact, for members realize the community interest in high standards of business conduct. Not the least important work of the luncheon clubs is the maintenance of the business morale of the community.

The concrete work of the clubs can best be explained by some definite examples taken from reports of what has been accomplished by some of the clubs affiliated with one of the larger bodies. One club led in a community Christmas observance and distributed toys and other Christmas articles to over 500 poor children of the city. A large city club equipped

a playground for the children of one of the poorer sections of the city. A club in a small county seat sponsored a dairy show which had as its aim the fostering of a better spirit between the farmers and the residents of the town. In many places the clubs have aided farmers in organizing drives to exterminate different kinds of pests. In one Pennsylvania city a club provided flower boxes which were placed in display locations about the city and the Boy Scouts tended the flowers. In an Idaho city a luncheon club led in a movement for a city park. A good many clubs have provided cabins or camps for boys and girls during the summer months. Several clubs have paid the expense of clinics for the crippled children of their communities. This last activity is typical of the work of many clubs, for at least two of the national organizations have centered their work in recent years around the problems of aiding crippled and other unfortunate children. Further examples would but show the wide scope of the community and social activities of the clubs. They are an important and useful part of present-day American life.

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CHAPTER XXVIII

THE RELATION OF GOVERNMENT TO BUSINESS

Theories of Governmental Relations.—Students of political science do not agree as to the proper extent to which local, state, and federal governments should regulate or assist private business enterprises. Adherents of the different forms of socialistic doctrines advocate definite control of private business by the government and the actual operation by the government of certain kinds of business. Others believe that business relations concern only the parties to a transaction and that the general public is not interested therein. Government should be confined, they argue, to rendering such services as protection from foreign nations, building good roads and making other improvements, and conducting operations which the individual cannot well do for himself. However, it is interesting to note that believers in the doctrine of non-interference are often among the first to advocate such forms of government aid to business as protective tariffs, bounties, governmental research, and the work of the consular service.

Statesmen of today tend to believe that any governmental functions which are of direct aid to a considerable part of the people are legitimate functions of the different governmental units. In pursuance of this belief, legislative bodies are extending their functions and the application of laws to the control of certain kinds of business which have heretofore been considered private in nature. Recent investigation and legislation relating to the activities of the grain exchanges furnish a case in point. State regulation of conditions of employment, hours of labor, wages for women, and the methods of competition is now considered to be a legitimate function of government. American statesmen have usually taken a very liberal

attitude and have been slow to pass laws which unduly restrict private business enterprise. American business men are free, with a few exceptions, to engage in any line of business which they wish to undertake. Such business must not, however, interfere with the rights of the general public or be unfair in its treatment of competitors. The laws directed against trusts and those creating the Federal Trade Commission are examples of legislation made necessary by frequent violation of the standards of fair competition.

Government Conduct of Business Enterprises—The Postal Service.—Although governmental conduct of business enterprises has not in this country been thought generally wise, certain conditions have made it necessary for state governments and for the federal government to engage in business which might conceivably be conducted by private individuals. The outstanding example of this is the postal service. A private company could perhaps conduct the postal service in the thickly settled sections of the country with profit. It could render all the services now rendered by the post office department and conduct its affairs just as does any other private business. But it could not profitably render service to the smaller towns and to the pioneer sections of the country. Hence if the postal service were turned over to private individuals, the government would necessarily require that service be rendered regardless of profit. If one company had a monopoly of the postal service, it could perhaps serve all sections; for its profits in one section would make up for its losses in another. But because of the social and educational value of good postal service the federal government has felt that such service is best rendered as a governmental function. Because of this certain classes of mail, such as newspapers and periodicals, are carried at a loss. The postal service has been conducted at a loss except in recent years, but it is felt that such a loss is justifiable and can be met by taxation better than by increasing

postal rates. The large amount of mail matter carried free for government officials and departments is one reason for operation at a loss. The government competes with private bankers in its operation of the postal savings branch of the Post Office Department, but it is felt that such competition is justifiable because of the feeling of security which certain people have when their funds are deposited with an agency of the government. Interest rates are low and many burdensome restrictions operate to limit the depositors to those who seek safety primarily.

The Alaskan Railroad.—Because of the uncertainty of returns from investment in a railroad into the interior of Alaska private companies hesitated to undertake its construction. Such a road was necessary for the economic development of the country, and hence the federal government constructed the road and is now operating it. Similar reasons led to the construction of the Panama Canal by the federal government. The canal has proved to be of great service to the transportation interests of the country, but private capital would not in all probability have built it for many years to come.

Governmental Manufacturing.—The largest printing and publishing establishment in the country is owned and operated by the federal government in Washington. This plant publishes the various bulletins, speeches, magazines, periodicals, and books issued by the government. All this work could be done by private printers, but because of the desirability of exercising close supervision and because of a possible saving in cost the government chooses to operate its own printing establishment. Because of the lack of efficient printers in the islands the government operates a very modern printing and publishing plant at Manila, in the Philippine Islands. Similar in nature is the Bureau of Engraving which, although operated as a separate business, supplements the work of the government

printer. Postage and revenue stamps and the paper money issued by the federal government are an important part of its product.

Because of the desirability of exact control of production and of the desirability of secrecy at times, the federal government operates a number of arsenals for the manufacture of certain types of guns and ammunition. Ownership of the national forests makes it necessary for the government to compete with private lumbermen in the sale of such timber as is cut from the national forests. Similar competition follows the ownership of land by the state governments and the federal government, in connection with agricultural experiment stations. The products of the farms, gardens, orchards, and dairies operated for experimental purposes must be sold in the open market to some extent.

Operation of Ocean Vessels.—The federal government since the World War has been one of the largest owners of ocean vessels. Because of the necessity of building boats rapidly and in large numbers, the government was forced to contract for the building of hundreds of boats during the war. Many of these have since been sold to private companies, but on June 30, 1924, 317 freight and passenger vessels were operated by the Shipping Board, a governmental agency which was created to supervise the affairs of the emergency fleet.

It has been the policy to sell the government-owned boats as rapidly as possible; but advantageous sale of all has been impossible, and it is expected that a considerable number of ships will be operated by the government for some time to come. Such operation is considered a necessity rather than a proper function of the federal government.

Governmental Relation to Banks.—During the early years of our government a number of states conducted banks which rendered the same service and had the same function as pri-

vately owned banks. At the present time no state owned banks exist, nor does the federal government engage directly in the banking business except in the case of the postal savings banks mentioned above. However, the federal government in its relation to the federal reserve system and to the land banks is indirectly in the banking business. The twelve federal reserve banks are operated under the supervision of a Federal Reserve Board to serve the national banks and such state banks as belong to the reserve system. Through its influence over the policies of the bank by the appointment of the Federal Reserve Board, the government has a very close relation to the operation and policies of the national banks. But it cannot be said to be in the banking business nor to be competing directly with privately owned banks.

The same is true of the relation of the federal government to the Federal Farm Loan System. By contributing a part of the original capital of these banks the government aided them in getting started and through them aided farmers who wished to borrow from them. It also controls such banks in part through appointment of a supervisory board. But only indirectly is the government in the business of loaning money on first mortgage security, and the sale of bonds secured by these mortgages is the business of the federal land banks. Because of the critical financial situation of farmers in many parts of the country the federal government loaned several millions to them through the agency of the War Finance Corporation in 1921 and 1922. Such loans were justified by the need of the farmers and the peculiar temporary conditions which made it impossible for them to finance themselves by ordinary methods.

Governmental Relation to Private Business

Scientific Aids.—In accordance with the idea that a proper function of the government is direct aid to business in matters

which can best be carried out through study by some outside agency the federal government has developed a number of lines of service to private business. A number of these are scientific in nature. For example, the Weather Bureau serves business by giving warning of approaching cold weather or of the probability of heavy rains. Warnings issued in advance of one period of threatened frost in the fruit regions of California are estimated to have saved the fruit industry a loss of $14,000,000; for by means of smudge pots and other protective devices the fruit growers were able to save their crop. Rain warnings in the raisin district of California and in all sections where hay is being made or grain harvested are of value. Certain industries the location of which is determined by weather conditions use the records of the weather bureau in determining their location.

The Bureau of Entomology has served business by making studies of various insects which are helpful or harmful to plants.[1] The Biological Survey carries on research into the life history of animal pests and aids in their extermination. The Coast and Geodetic Survey gathers data of aid to navigators and also aids in drainage and irrigation projects. The Lighthouse Service and the Coast Guard aid navigation, and the latter assists in salvaging stranded vessels and aids revenue officers in preventing smuggling. The Geological Survey has been of great value in mapping and locating ore reserves and in other aids to miners. The Bureau of Mines studies mining methods and suggests improvements. The Reclamation Service has been instrumental in making farms available for settlers; up to the present time nearly $500,000,000 of products have been raised on such farms.

The Bureau of Standards carries on industrial research and assists in the development of standardization programs. To carry on this work it has a staff of about 900 employees. Something of its work is indicated by the following examples.

[1] See page 18.

Standard specifications have been drawn up in recent years for nearly all industrial materials, and these standards have been adopted by over five hundred purchasing agencies public and private. Much progress has been made in inducing manufacturers of such articles as paving brick, hotel china ware, woven wire fencing, hollow building tile, files and rasps to agree on certain standard sizes and models of these articles to the end that the industries represented may be operated more economically and that consumers may standardize their purchases. Scales of all kinds are tested by the bureau to determine their accuracy. Tests have been made of the resistance to fire of certain commercial fire resisting materials. Strength tests of concrete laid under different conditions and proportions of cement to stone or gravel have been made.

Marketing Aids.—The Bureau of Agricultural Economics issues monthly reports relating to the condition of growing crops. These reports are made on the basis of information sent to the bureau by over 2,000 volunteers in all sections of the country who report the condition of the crops in their sections. By combination of these reports together with checks made by its own agents the bureau is able to issue a statement on the condition of each of the principal crops at a certain date. This estimate is made on a percentage basis, normal conditions being used as 100 per cent. For example, it may be estimated that on June 15 the corn crop of the country as a whole is 86 per cent of normal and that the cotton crop is 95 per cent normal. Such an estimate is of tremendous value to business men who need to plan their activities with relation to the probable total of the corn, wheat, or cotton crop when these crops are harvested in the fall. Although this estimate does not definitely prove that the corn crop will finally be 86 per cent of normal, it does give a good indication of the probabilities. These estimates are at once reflected in the future prices of these commodities on the various exchanges. Millers, export-

ers, and others who need to plan their purchases thus have an idea of what the price will be at a later date, and by buying futures they can be assured of delivery at a set date in the future. Were it not for these careful estimates of crop conditions future prices could only be determined by a very rough guess. Farmers carrying over corn, wheat, or cotton from a previous year are benefited by these reports, for they are thus enabled to tell something of the probable future price of the commodity they are holding. Because of the close relationship between national and business prosperity and the prosperity of the farmers, such reports are of general interest and value.

The Bureau of Agricultural Economics is of direct aid to farmers in another way, for this Bureau is constantly carrying on research in the field of agricultural marketing. In recent years many studies have been made of cooperative associations, and bulletins showing the results of these studies have been issued. By using these bulletins farmers wishing to form an association of this kind can be guided in the methods of promoting the organization, in its structure, its accounting systems, the kind of crop contracts to use, and in methods of selling the product handled by the association. The Bureau also operates a market service which shows the prices of all perishable products in the principal markets and on the way to these markets from various points. Shippers may thus be guided in their determination of where to ship. The bureau has been active in establishing certain definite grades for perishable products. It maintains an inspection service which furnishes trained inspectors who examine shipments of perishables to determine their condition. For example, if a shipper of celery from a southern state is informed that his shipment arrived in poor condition and that the purchaser cannot accept it without an allowance, he can have the celery inspected by a representative of the Bureau of Markets, a capable and disinterested man; and thus the exact allowance which should be

made can be determined. This service definitely protects shippers at points far distant from markets. These examples of the activities of the bureau of markets are simply suggestive of the many lines of service to business which are rendered by this one bureau.

Bureau of Foreign and Domestic Commerce.—Something of the methods by which the Bureau of Foreign and Domestic Commerce is aiding American exporters and importers has been shown in a previous chapter.[2] To aid in understanding the service of this governmental agency, something of the detailed service of the Bureau to one industry may be sketched. In a recent year the Bureau served the shoe and leather manufacturers of the country as follows. It compiled a trade directory of 990 exporters of shoes, which was used to inform these manufacturers of opportunities for export. Illustrated catalogs of all manufacturers who cared to supply them were sent to the consular offices and thus made available for foreign purchasers. Several important orders resulted from these filed catalogs. Studies were made in certain foreign markets of the export possibilities for such articles as shoe findings, bags, suitcases, and shoe polishes. By using these and other devices and by keeping in close contact with shoe manufacturers the Bureau was able to render definite service to this industry, a service which is fairly typical of that rendered to most of the other industries of this country.

The Bureau also serves business men engaged in domestic trade. This phase of service has not been as well developed as that relating to exports and imports, but it is now receiving special attention and development. Recent studies have been made of many business problems such as cancellations of orders, plant location, and warehousing. Surveys of certain market areas are under way which when completed will aid manufacturers selling in these districts by showing them some-

[2] See page 248.

thing of the income of the people of the districts, their preferences as to types of commodities, their principal industries, the status of wholesaling and retailing in their districts, and other pertinent facts. A recent conference called by the bureau which was attended by representatives of manufacturers, wholesalers, and retailers, discussed methods of eliminating waste in the distribution of commodities. Special studies of marketing methods for certain commodities have been made. A series of bulletins is being issued which will be of value to retailers, for it gives the best practice on such retail problems as store location, store planning, store equipment, sales budgets, cooperative advertising, etc.

Regulatory Activities

The Federal Trade Commission.—In addition to direct aid to various kinds of business the federal government gives indirect aid by enforcing the rules of fair business competition. With expanding industrial life came opportunities for unfair practices. Early recognition of this fact was expressed by different laws which regulated and restricted corporations that sought monopoly control. But certain business methods which were recognized as unfair had nothing to do with monopoly control of an industry. In 1914 a law was passed which created a board of five members to be known as the Federal Trade Commission. This Commission has power to investigate the practices of any corporation engaged in interstate commerce, and if in its opinion it finds that any of their practices are unfair the Commission has the power to order these stopped. The principal problem of the Commission has been the determination of what constitutes unfair methods of doing business. Rather than attempt to lay down rules of ethical business conduct the Commission has chosen to investigate each case on its own merits, and after taking evidence and studying the various aspects of the case, to render a deci-

sion on each business method which has been questioned. Examples of recent activities of the commission will show something of its sphere of service.

Other Regulations.—The Commission has been interested in standardizing trade terms and in preventing the use of adjectives or trade names which deceive the public. For example, Grand Rapids, Michigan, is recognized as the furniture capital of the country and the source of much quality furniture. To protect manufacturers of this city the Commission has declared it illegal for a furniture retailer to advertise furniture as "Grand Rapids Furniture" unless the articles are actually the products of a factory of that city. Varnish manufacturers have been ordered to stop the use of the word "shellac" unless the product actually contains shellac made from 100 per cent pure shellac gum cut in alcohol.

At one time certain retailers and other distributors were calling themselves manufacturers as well as retailers in order to give the public the idea that because of this fact they could sell goods more cheaply. The Commission issued an order stopping this practice. Goods may not be advertised as "imported" unless they have actually been brought to this country from abroad. Band instrument manufacturers have been forbidden to subsidize musicians by gifts of instruments or by large discounts with the object of advertising that a certain famous musician or organization uses a certain make of instrument exclusively. Certain schools were ordered to eliminate untrue or misleading statements from their advertising. A manufacturer was ordered to change the package used for his goods because it was too close an imitation of a competitor's package.

In addition to specific orders such as the above, the Commission has made studies of the methods used in carrying on the business phases of certain of the principal industries and has worked with the people in these industries in an effort to

raise the ethical level of their practices. The Commission has decided certain cases which show how far manufacturers may go in their efforts to maintain resale prices. Other activities of the Commission have related to such practices as local price cutting, the use of bogus independent companies, espionage, false labeling, fictitious prices, commercial bribery, boycotting, and black-listing.

Regulation of Railroads.—It has been found necessary by the federal government, as well as by the various state governments, to set up certain regulations which govern the relation existing between the various common carriers—*i.e.*, the railroads, steamship companies, bus and truck lines, pipe lines, etc. —and the public which uses the services of the carriers. The Interstate Commerce Commission is the federal agency which supervises and regulates certain of the activities of all companies engaged in interstate carriage of passengers and commodities. It is composed of eleven members appointed by the President.

A number of types of regulation have developed, all of which have direct connection with private business because of the fact that business men are dependent on the carriers for certain services. For example, the Commission very early found that if it were to have any basis for comparison of rates and earnings it must provide for a standard system of accounting to be used by the railroads. It therefore has prescribed certain types of accounts which must be kept, and from time to time calls for reports based on these accounts. From a study of these reports the Commission has the power to approve or disapprove rates for both freight and passenger transportation. It approves or disapproves both the general level of rates and specific rates as well. Another form of regulation provides for the use of certain types of safety devices and fixes the number of men which must be furnished for the operation of certain types and sizes of trains. The Commission also has

power to allow or disallow new issues of stock and bonds by the carriers under its supervision. Extensions of new lines or expenditures for certain types of improvements must be approved by the Commission. In one year the Commission received and investigated over 5,000 complaints filed by shippers.

The Commission has power to enforce its regulations by assessing fines against offending carriers, over $200,000 being collected in a single year from such fines. It also has power to use federal courts for enforcement when necessary. Shippers or carriers have a right to appeal to the courts from the decisions of the Commission when they see fit to do so. If the appellant can show that the Commission acted beyond its powers or fixed rates at such a level as to be confiscatory of the property of the carriers, the court can set aside the decisions of the Commission. The court cannot change an order of the Commission simply because it believes the order to be unwise.

State Regulation of Railroads.—The different states have commissions which roughly correspond in type and powers to the Interstate Commerce Commission, although several different names are used for such commissions. In a number of states besides regulating common carriers the state commissions also have regulatory power over all public utilities. In the main the powers exercised by state commissions over carriers are confined to matters which do not affect interstate commerce, but relate only to shipments wholly within the borders of one state. Rates from one point to another within a state can be set by state commissions. For example, passenger fares in a certain case were set at three cents a mile between two points within the borders of a single state, although at the same time interstate passenger fares were based on a somewhat higher rate. In another case a state railroad commission ordered a railroad not to reduce its service on a certain branch line from two passenger trains a day to one train each way a

day. State commissions can forbid abandonment of lines of road if they see fit to do so. In another state all railroads were ordered to install telephones in their ticket and freight offices, in the interest of service to the public. Regulation of public utilities extends to control over both rates and services rendered. A state commission, for example, has the power to order a gas company to extend its mains to give service to new customers if the commission feels that public interests justify such an order.

Regulation of both carriers and public utilities is based on the idea that such enterprises, by virtue of the fact that they have been given more or less monopolistic powers, owe an obligation to the public. This obligation requires them to give reasonable service at reasonable prices. The application of this principle to specific cases must be made by federal and state commissions which can take judicial notice of the interests of both the companies rendering the service and the public which receives the service. The extension of the powers of state and federal governments is thus justified by the interests of both parties and is now considered to be a legitimate exercise of governmental powers. The importance of adequate service at reasonable rates is so evident as to need no elaboration. Assurance of such service is one of the important ways in which business is being aided by governmental activity.

Other Governmental Regulations.—This discussion makes no attempt to give a complete list of the methods by which state and federal governments aid business, but a few illustrations of other lines of service will be suggestive of the many aids which governments are extending to their citizens, and of some of the restrictions which governments have found it necessary to place upon certain methods used by business enterprises. These restrictions have been found to be necessary because of the fact that not all business executives are guided by high ethical standards of conduct. Some business men have

been willing to take advantage of lack of knowledge on the part of their customers and of the opportunity for business dishonesty which has come about as the result of the wide separation of producer and consumer. To curb and regulate the activities of such business men certain laws have been found to be necessary. These laws in no way limit the activities of business men who have not practiced the methods regulated or forbidden by such laws, but have had the result of making it more difficult for dishonest practices to be carried on. They have acted as a protection for the honest business man.

An example of such legislation is the group of pure food and drug laws passed by state and federal governments. These laws make it a misdemeanor to adulterate foods and drugs by using any adulterant which reduces the strength of the drug or introduces poisonous or other unwelcome matter into foods. The use of any label which in any way misleads the purchaser is also forbidden. Pure food and drug legislation has been necessary because of the inability of the average purchaser to know when articles he buys are adulterated or misbranded, since in many cases only a chemical analysis would disclose the presence of the adulterant. Federal inspectors have been placed in many packing houses to prevent the introduction into interstate commerce of meat from any diseased animal. For similar reasons state regulation of scales and weighing apparatus has been found to be necessary.

Because of the lack of financial knowledge on the part of many people and because of the inability of many purchasers to determine the true value of corporate securities of many companies, several states have passed what is commonly known as "blue sky legislation." This term is used because of the fact that purchasers of stock in certain companies found that the stock was no more valuable than would be a title to a certain portion of the blue sky, or because stock was being sold which lacked the backing of any assets more definite than the blue sky. Such legislation in the different states commonly

provides that before a stock issue shall be placed on sale in the state, a commission formed for the purpose of investigating all stock sales in the state shall have passed on the probable value of the stock. Approval of a stock issue by a blue sky commission does not guarantee the value of the stock, but it does show that the commission has examined the condition of the company and has found it to be sound in so far as the commission can judge.

In a previous chapter [3] it was stated that the federal government has found it necessary to regulate business combinations which have assumed monopolistic powers. As a result, the federal government through several bureaus and the combined action of the Department of Justice and the Federal Trade Commission has been able to limit the monopolistic powers of the so-called trusts. Such governmental action has not been uniformly successful, but it may be said that monopoly in its extreme form has been made impossible. By such action the government has been able to protect the rights of the larger number of its citizens.

Another relation of government and business is illustrated by certain types of laws passed alike by state legislatures and by the federal Congress. Laws which punish criminal activities of all kinds are a help to business, for were crime unrestrained, business in its present form would be impossible. Patent and copyright laws have the effect of assuring inventors and authors some measure of protection in the enjoyment of the financial income resulting from the sale of their inventions or literary and musical productions. This stimulates invention, aids in industrial progress, and encourages the publication of books of value to business men. The protection which follows registration of trade-marks makes it somewhat more certain that an advertiser who spends much money in making a trade-mark known to the public will be undisturbed in its use.

[3] See page 318.

Tariff legislation aids in the development of certain industries by granting protection to them. Because of certain conditions some industries in this country would not be able to sell their products in competition with similar articles shipped in from abroad were it not for tariff legislation which provides for the collection of entrance duties. These duties make it difficult for foreign producers to undersell domestic manufacturers. The value of protective tariff legislation to industry as a whole is a disputed point, but it cannot be denied that the existence of certain industries in this country has been made possible only because of the measure of protection which was given them by protective tariffs. Whether the development of such industries has been economically desirable is a question which need not be discussed here.

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QUESTIONS AND PROBLEMS

Chapter I—The Business of Agriculture

1. Cite illustrations which show the relation which exists between agriculture and manufacturing.
2. What economic conditions have been responsible for changes which have taken place in the type of agriculture practiced?
3. What problems does the modern farmer face which are like those of the manufacturer?
4. What reasons account for the wide use of the sole proprietorship as a form of business organization in agriculture? What are the important exceptions to the use of the proprietorship?
5. What are the principal sources of capital used for farming operations? What factors determine which source will be used?
6. What problems of securing a labor supply are peculiar to farming?
7. In what ways has science contributed to the extension of cultivatable farm area? To the retention in use of land which has been cultivated for some years?
8. A young farmer in the New England states is faced with the problem of deciding whether to continue to farm in that region or to move to the North Dakota wheat belt. He has been told that both the business and scientific phases of farming differ widely in the two regions. Is this true? If so, what conditions are different? How might this farmer prepare himself for success in the newer state?
9. Cite examples to prove that taxes paid for the support of a state college of agriculture have been repaid to the farmers of the state.
10. Assume that a prospective apple grower who has saved $5,000 is offered an Ozark mountain farm of 100 acres at $50 an acre. The farm is well suited for apple purposes but has never grown fruit of any kind. What factors should the young man consider before he buys this farm?
11. Wherein do the financial problems of the fruit grower differ from those of the dairy farmer?
12. John Brown, a farmer located 20 miles from Detroit, Michigan, has been cultivating a farm of 200 acres. He has been considering selling one half of his acreage and concentrating on the production of small fruits and vegetables. What factors should Mr. Brown consider in arriving at a decision?
13. A dairy farmer in southern Wisconsin has become convinced as a result of attending a farmers' institute that he needs assistance in the solution of his problems. What kind of information is he

most likely to need? What sources of information and assistance are open to him?

14. What are some of the factors which have operated to reduce the risks of farming?
15. It is frequently asserted that the well being of the nation is threatened by the movement of workers from the country to the city. Do you believe that city dwellers will suffer from this migration? What are the causes of this movement? What will be the effect of this migration on those who remain on the farm?
16. A farmer wishes to retire to the city. What should he consider in deciding whether to retain ownership of his farm or to sell it? If he decides to keep the farm what forms of rental contract can he use? What are the advantages and disadvantages of each from the owner's standpoint. From the renter's standpoint?

Chapter II—Business Aspects of the Lumber Industry

1. A man contemplates engaging in the logging and sawmilling business. He is undecided as to whether to locate in the south where he would operate on the basis of scattered farm woodlots or in the northwest where his operations would be on virgin timber stands. Which location would probably call for the larger capital investment?
2. Why have paper manufacturers been more willing to engage in reforestration than other large users of timber?
3. Why should advertisers be interested in the problems of forest conservation?
4. Conservationists accuse the lumber industry of unjustifiable wastes of forest resources. What business considerations explain many of the so-called wastes in the lumber industry?
5. Why are cabinet woods such as mahogany, rosewood, ebony and teakwood so high in price in spite of the vast extent of tropical forests?
6. How do you explain the sharp fluctuations of price so common in the lumber industry?
7. The X Y Z Company, which owns extensive timber lands, is thinking of stopping logging and sawing operations. What losses would follow such a shut down? Why might these losses exceed those involved in the shut down of an ordinary manufacturing plant?
8. A retail lumber dealer has been asked to express his opinion of the grade marking of lumber. What advantages might he as a retail lumber dealer expect to enjoy as a result of grade marking? Why might he oppose the practice?
9. How do you explain the large timber holdings and large mill operations characteristic of regions of virgin timber?
10. What conditions promote the use of the sole proprietorship in the conduct of sawing operations in those regions where farm woodlots

are the source of timber supply? Why is this form of organization less prominent in regions of virgin timber supply?

11. What considerations might induce a large sawmilling company to acquire timber lands and to undertake the cutting of their own logs?
12. How has the shifting character of the lumber industry affected the conditions of the workers?
13. What considerations might induce the federal government, a state or a municipality to engage in the growing of timber?

Chapter III—Business Aspects of the Mineral Industries

1. Trace the relationship which exists between the mineral supply of any country and its industrial development.
2. What industrial changes would follow the sudden disappearance of the supply of coal?
3. What political consequences have followed the absence or presence of minerals in certain countries in the past?
4. Is there danger of exhaustion of world supplies of iron in the near future?
5. What are the industrial uses of petroleum? What is the world situation regarding petroleum reserves?
6. What are some of the effects on the business of mining of the arbitrary location of the industry?
7. What are the forms of ownership principally used in the mining industry? Why are these forms favored?
8. To what extent has integration developed in the mining industry? What are the advantages of this form of organization?
9. What factors determine the competitive advantage of any mine?
10. In what ways has science contributed to the elimination of risk in mining?
11. In what ways have unions of miners changed conditions of employment in the mining industry?
12. Assume that an Ohio farmer discovers coal on his farm. What form of organization would be used in developing the coal? How would the development be financed? What sources of labor supply would be available? How would the coal be marketed?
13. What general principle of mining finance should an owner of mining stock always remember when he receives his dividend checks?
14. An electric light and power company is thinking of buying a coal mine located about 100 miles from the power plant of the company. In what ways will the business problems connected with the operation of the mine be like and in what ways unlike those connected with the operation of light and power company?
15. A newly organized coal mining company has recently employed a mining engineer. What would be some of his duties?

16. Assume you were approached by a salesman who wished to sell you stock in a copper mine. What questions would you ask him?
17. If you discovered oil on your city lot what methods of selling the oil could you use? What would determine your decision?

Chapter IV—Business Aspects of Fishing Industries

1. Why are the peoples of Northwestern Europe and of Japan large fish consumers?
2. Explain some of the more important contributions which scientists have made to the fishing industry.
3. Why are the prices of fresh fish so high in the Mississippi Valley?
4. Mr. X proposes to engage in the salmon canning business. What factors should he consider before deciding definitely to engage in the business? How will his labor problems differ from those of a coal mining company? His financial problems? His marketing problems? What other problems should he consider before engaging in the industry? In what way would his problems differ from those he would face if he engaged in fishing operations on a large scale on the Newfoundland banks?
5. What marketing problems are peculiar to the fish industry?
6. What relationship exists between the type of fishing conducted and the form of organization used?
7. Why have certain distinctive methods of compensation been adopted in the fish industry?
8. Many fishing boats from New England ports are now equipped with radio apparatus. How does this equipment aid in simplifying the marketing problems of the boat owners?
9. Would a fisherman be justified in adopting as his rate of depreciation the rate used by a farmer? By a manufacturer? Give reasons for your answer in each case.
10. Account for the limited use of brands for fish and oysters.
11. What methods could be used by a trade association in the fish industry to encourage consumption of fish?
12. What is the connection between the fish industry and the beginnings of maritime commerce?

Chapter V—Industrial Development

1. What connection is there, if any, between the development of commerce and the development of manufacturing?
2. What were the principal obstacles to the development of manufacturing in earlier times?
3. Contrast manufacturing conditions under the gild system with present day manufacturing.

4. How did the Industrial Revolution change the status of the workers?
5. Why should the student of business be interested in a study of the Industrial Revolution?
6. The X Y Z Company has been organized to engage in the manufacture of steel rails. What factors should be considered in determining where to locate the plant? How do the location necessities of a steel rail plant differ from those of a manufacturer of watch springs? A canner of vegetables? A manufacturer of automobiles? A manufacturer of automobile parts? A manufacturer of automobile accessories?
7. How do you explain the manufacturing leadership of the United States?
8. A manufacturer of cotton textiles is thinking of establishing a plant in the Pacific Northwest to take advantage of the Coast market and cheap hydro-electric power. Why may his production costs be higher than those of manufacturers in other districts?
9. What is the most significant difference between the handicraft and the domestic systems of industry?
10. What conditions brought about the development of the gilds?
11. Why did the Industrial Revolution start in England rather than on the continent?
12. "The history of industry in general has shown that when an invention has been needed it was soon supplied." Cite examples to prove or disprove the truth of this quotation.
13. What reasons account for the fact that manufacturing in this country first started in New England?
14. "The Industrial Revolution took place in the last half of the 18th century." Discuss the truth of this quotation.
15. What factors may make it advisable for a manufacturing enterprise to be located at some distance from its supply of raw material?
16. A prospective manufacturer of tires is considering Akron, Ohio, as a location. State arguments for and against this location.
17. Account for the wide distribution of brick plants.
18. What reasons explain the concentration of automobile manufacturing in the Detroit area?
19. What relation, if any, exists between the character of government in any country and the extent of manufacturing in that country?

Chapters VI and VII—Business Aspects of the Metal and Textile and Other Manufacturing Industries

1. Trace the development of the iron and steel manufacturing industries of the United States in such a way as to indicate the center of production and the reasons for the development of the industry in these locations.

2. Why is the business unit in the textile industry usually smaller than in iron and steel industry?
3. What other considerations besides economies in manufacturing explain the large size of the business unit in the automobile manufacturing business?
4. What advantages have resulted from the development of such combinations as the General Motors Corporation?
5. A company is being organized to produce a new automobile. How may the company reduce the necessary capital investment to the minimum?
6. Explain why a steel manufacturer might be willing to endow a Bureau of Industrial Research.
7. Explain the concentration of woolen manufacturing in the eastern states. What factors would tend to locate it elsewhere?
8. Why are relatively small concerns common in the manufacture of tools and machinery? Why is the International Harvester Company an exception?
9. Mr. X, a merchant in a village of 300 people in the Middle West, recently stated that the coming of the automobile had changed both his stock of goods and his methods of doing business. Explain this statement.
10. In what ways is Durant Motors, Inc., unlike the Ford Motor Company?
11. What factors have caused a shift from time to time in the location of the leather tanning industry?
12. A young business man wishes to become a manufacturer. He has recently inherited $5,000, but knows little about the manufacturing methods used in any one industry. Why might the shoe manufacturing business be a feasible selection for him?
13. What principles of industrial location are illustrated by the Akron rubber factories? The Boston flour mills? The Maryland canneries? Condensed milk plants?
14. If you contemplated the manufacture of art pottery where would you locate your plant?
15. What is the connection between advertising and the size of certain food supplying plants?
16. Assume that you are employed as a chemist for a flour mill. What would be your duties?
17. Explain the increased importance of the printing and publishing industry in the last decade.

Chapter VIII—The Production Department of a Business

1. Assume that you were called on to explain the meaning of "scientific management" to a high school boy. What would you say?
2. What social advantages have resulted from the scientific management movement?

3. If you were employed as a functional foreman in a clothing factory what would be your duties?
4. Account for the height of certain factory buildings erected on relatively cheap land.
5. What determines the relative importance of the planning department of a factory?
6. How would you make a time and motion study of the operation of wrapping packages in a department store?

Chapter IX—The Distributive Industries—Functions

1. What social advantages follow the grading of farm products?
2. Why is grading of farm products more difficult than grading manufactured products?
3. Contrast and compare "assembly" as a marketing and as a manufacturing function.
4. Explain the relative insignificance of transportation as a factor in marketing during the Middle Ages. What factors increased the importance of this function in the early modern period?
5. "Transportation costs are a large factor in the aggregate of marketing costs." How can this be true in the case of a grocer whose stock in trade is all delivered by trucks operated by a wholesaler?
6. Cite examples to show the close relation which exists between freight rates and the amount of goods stored awaiting consumption.
7. Opponents of a proposed bond issue for the purpose of providing cold storage facilities as a part of the city's market house argue that the new facilities will result in raising the price of the articles stored and hence the interests of the people of the city as a whole will not be served by the new facilities. Is this position sound?
8. For what two purposes do most manufacturers provide warehouse facilities as part of their plant? Does the investment in these warehouses add to the price paid by the consumer for these goods?
9. Why is assembly of increasing importance as a marketing function?
10. Name articles that are commonly sold by sample. What economies follow this method of selling?
11. Would you favor the creation of a federal board having power to establish and enforce grades for farm products? Would your answer be the same for manufactured products?
12. Why is demand creation a relatively more important function in the marketing of certain articles than in the marketing of other articles?
13. If you believed that advertising is destined to become a more important force in the future than in the past, would this belief influence your decision to prepare for a career as a salesman?
14. If you were offered a position as a sales manager upon leaving college, what would you expect might be your duties?

15. Under what conditions is a manufacturer justified in spending several thousand dollars for a page in a monthly magazine?
16. What is meant by the educational value of advertising? The "economic value"?

Chapters X and XI—Agencies in Marketing Farm Products and Manufactured Goods

1. What functions are performed by the huckster of fruits and vegetables who raises what he sells? Would your answer be the same for a huckster who buys his supplies from a produce wholesaler?
2. If an Indiana farmer contracts to raise ten acres of tomatoes and deliver them to a local cannery, does he perform any of the marketing functions? If so, which ones?
3. In what manner does the local cash buyer of farm produce perform the assembly function?
4. Trace the steps in marketing a load of beef cattle.
5. Why do eggs pass through the hands of more middlemen than does furniture? Does this mean that the cost of distribution is higher for eggs than for furniture?
6. Why are there more middlemen today than at the beginning of the last century? Do you expect that the number of middlemen will increase?
7. A manufacturer of a butter substitute is dissatisfied with the fact that his product is distributed through wholesalers to retailers. He considers selling direct to retailers. What factors must be considered before he makes the change?
8. If you were one of the wholesalers handling the butter substitute just mentioned how would you summarize the functions you perform in an attempt to justify the use of wholesalers in this case?
9. A well known concern marketing a branded staple has been able to sell to grocers directly and thus eliminate the use of the jobber in most parts of the country. But in some sections this company has been forced to sell through wholesalers. What are some of the conditions which might make their use necessary?
10. State the reasons which make it possible for a manufacturer to exercise greater degree of control over his output than can be exercised by the average farmer. What is the effect of this difference on price levels of the two types of products?
11. Which marketing agencies are most affected by changes in styles?
12. The manufacturer of the butter substitute above mentioned can sell his product just so long as he keeps the price below that of butter. What considerations will determine how much below the butter price the price of oleomargarine will be set?

13. Why do certain manufacturers go as far as it is legally possible, in order to set the price at which retailers sell their products?
14. A manufacturer of children's wagons is approached by the representative of a large mail order house with a proposition to take over about one-half the output of the factory. Why might the manufacturer refuse this order?
15. Assuming that the above order were accepted, would the manufacturer insist on having his brand name on the wagons sold?
16. A manufacturer recently said, "I believe that the day of the wholesale grocer is about over." Do you agree with him? State reasons for his belief and for your answer.
17. A manufacturer of a new kind of breakfast cereal is faced with the necessity of deciding whether to sell direct to retail grocers or to use jobbers. He knows that several of his leading competitors sell direct. What factors should he consider in making a decision?
18. It has been stated that wholesalers are in part responsible for the very large number of retailers which exist in some lines. Why may this assertion be true?
19. In what sections of the country could the breakfast food manufacturer above mentioned use manufacturers agents? What services would they render?
20. Why are grocery departments usually not found in department stores?
21. Trace the effect of the wide use of private automobiles on retailing in the country towns; on retailing in the county seat type of town; on retailing in the heart of the larger cities.
22. The owner of a general store in a small Illinois town is told by the postmaster that each year the volume of money orders purchased to be sent to mail order houses for merchandise is increasing. The merchant is able to check this statement by his sales. What steps can he take to offset the tendency to buy from mail order houses?
23. Has the wide use of the automobile helped or hindered the large mail order houses?
24. Many retailers opposed the establishment of the federal parcel post system. What do you believe were their grounds for this opposition? Were these points economically sound?
25. Why has the growth of chains been mostly in the field of specialty stores?
26. Explain the recent growth of house to house selling. What do you think of its future?

Chapter XII—The Business of Foreign Marketing

1. At a luncheon club of business men a speaker was recently announced on the subject, "Why you should be interested in Foreign Trade." What points did he probably make?

2. Why should an Ohio manufacturer be concerned with the development of a foreign market for his products?
3. If transportation costs were to double, what would be the effect upon foreign trade? Would the volume of trade in all commodities be affected in like proportion?
4. Why should the United States government assist in developing foreign markets for American goods?
5. What important changes have taken place in the foreign trade of the United States? What is the significance of these changes?
6. Contrast early foreign trade organization with that of today.
7. The X Y Z Manufacturing Co., manufacturers of gasoline engines, is considering the development of export trade. The company is capitalized at $100,000 and has a growing domestic business. It has been suggested that the company establish branch offices abroad and that a warehouse be maintained in connection with each office. What factors should be considered before attempting to develop such a branch house organization? Would you advise the company to establish branches? What other methods of foreign market development are open to the company?
8. The Excelsior Automobile Co., manufacturers of passenger motor cars, is considering the development of a Canadian factory. What considerations might induce the company to establish such a factory?
9. The Brown Adding Machine Co. is planning to develop its foreign sales through the use of the mails. Sales efforts will be confined to catalog distribution and other forms of direct advertising such as circulars, sales letters, etc. Do you regard the company's plans as sound? Why?
10. The New England Paper Co., manufacturers of printing papers, have been solicited to become members of an export combination which would combine ten manufacturers of similar products. The proposed combination would involve the setting up of a separate company to handle exports sales. The combination would establish a sales office in New York City and branch offices in the principal foreign markets. What factors should the New England Paper Co. consider before entering such a combination?
11. A manufacturer of candy located in Cleveland, Ohio, has been approached by a freight forwarder who promises valuable assistance in the conduct of the candy manufacturer's foreign business. What services can this freight forwarder render to the candy manufacturer, the bulk of whose foreign business is in England, the sales being made by agents located in a number of English cities?
12. Why should a longer credit period be demanded in the case of foreign than in the case of domestic sales?

Chapters XIII and XIV—Forms of Business Organization; Corporate Securities and Control

1. Does the table on page 271 agree with the statement that the corporation is the dominant form of organization in manufacturing industries?
2. Do you believe that the legal rule which terminates the life of a partnership at the death of one partner is well founded?
3. What documents determine the power of a corporation?
4. A company is proposed to manufacture a new line of toilet preparations. Trace the steps they would need to take to become a corporation. What later steps of organization would they need to take before they could start operations?
5. What would be contained in the by-laws of the above company?
6. How many directors would be elected by the above company? What would be their duties? How would they be paid?
7. What economic conditions resulted in the rapid increase in the number of corporations during the last century?
8. The Mountain Fruit Farms, a corporation, was formed to produce apples and other fruit. At a meeting of the stockholders it was voted to purchase and operate a creamery in a nearby town. One stockholder who had voted against the proposed purchase appealed to the courts for an injunction to stop the company from making the purchase. Can one stockholder block the wishes of the majority in this way?
9. In the above case would the board of directors have power to vote a bond issue to secure funds to make the purchase? Would they have power to buy machinery and to select a manager for the plant? Who would determine the advertising policy of the company?
10. A company is being formed to manufacture radio equipment in Ohio. Should the company be incorporated in that state?
11. Do you believe that partnerships will be relatively more or less important in the future? Why?
12. Do the reasons which resulted in the organization of partnerships in the Middle Ages still account for the use of this form of organization?
13. Explain the wide use of the sole proprietorship form of organization in many industries.
14. The Excelsior Furniture Co., one of the leading stores in a city of 250,000 population, is owned by the man who has developed it from a small enterprise. He is, however, thinking of incorporating the business. Why might or might not this be a wise step?
15. If the above-mentioned merchant sold a one-half interest in his business to an employee, would you recommend the use of the partnership form of organization? If he gave a half-interest to one of his sons what form of organization would you recommend?

16. Assuming the use of the partnership in one of the cases mentioned in the preceding problem, what would the articles of partnership contain?
17. An experienced grocer formed a partnership agreement with a man who had had no grocery store experience, but who was willing to furnish a considerable amount of capital for use in the business. One of the points of agreement was that the inexperienced partner should make no purchases. But while this partner was temporarily in charge of the store a salesman induced him to place an order for some merchandise. When the experienced member of the firm was informed of the purchase he called the house which the salesman represented and asked that the order be cancelled. Can the firm be compelled to take the merchandise and pay for it?
18. Why are practically all insurance and railroad companies organized as corporations?
19. Account for the fact that officers having similar titles have widely varying duties in different corporations.

Chapter XV—Business Combinations and Agreements

1. What considerations other than a desire to accomplish price control explain the development of combinations?
2. Why was the pool supplanted in many cases by the trust form of organization?
3. Cite an example of a merger from your own experience. What consideration probably explains this merger?
4. What factors have operated to limit the development of combinations in the United States?
5. It has been stated that there are too many companies manufacturing radio equipment in the United States. What is the basis for this statement? What developments might operate to reduce the number of companies?
6. What do you understand by the term "natural monopoly"?

Chapter XVI—Some Principles of Financial Policy

1. The Economy Manufacturing Co. is being organized to manufacture washing machines. Enumerate the different major items which will call for capital investment in the business.
2. Mr. R. G. Brown is operating a dry goods store as a sole proprietorship. He owns the building in which the store is located subject to a first mortgage of 50 per cent of the value of the property. Mr. Brown needs additional space and has an opportunity to purchase an adjacent store room. To finance the purchase it would be necessary to place a first mortgage on both properties. The second mortgage loan would mature in about 2 years. Would you advise the pur-

chase under the conditions just stated? What other methods for financing the purchase of the additional space are available?

3. The X Y Z Company is being organized to manufacture electrical sweepers. What methods are available for securing the original capital? What factors should the promoter consider in deciding upon the methods of financing to be used?
4. How are the interests of common stockholders affected by the failure to pay dividends on preferred stock?
5. Is the failure to pay interest on preferred stock as serious as the failure to pay interest on bonds? Why?
6. The Purity Flour Milling Co., with 50 years of successful business history, manufactures a nationally advertised brand of flour. The mill is located at Minneapolis, but it is proposed that the company establish a second mill at Buffalo, New York. The proposed expansion will necessitate a heavy addition to the capital of the company. It has been proposed that this additional capital be secured by the sale of bonds. What factors should be considered in arriving at a decision? What might be the advantage of a bond issue over the sale of preferred stock? What connection may there be, if any, between the fact that the mill is producing a nationally advertised brand of flour and the proposal to issue bonds?
7. Give an example of new financing which does not add to the capital of an enterprise?
8. Why is increasing capital through the investment of earnings a particularly safe method?
9. A department store which has been operating on a cash basis proposes to extend the charge account privilege to all customers whose financial status warrants such an extension. The credit extensions will necessitate additional capital and it is proposed that this be secured by borrowing from commercial banks. Should the proposal be adopted? How might the company provide the additional capital other than by the use of this method?
10. A merchant who can borrow from the banks at 6 per cent interest has purchased a bill of goods on the following terms, 3/10, net 30. Will it pay him to borrow from the bank to pay cash for the goods? How high a rate of interest could he pay for the loan and still profit by borrowing to pay cash?

Chapter XVII—Institutions Aiding in Financing a Business

1. Why should the government regulate banking more strictly than other types of business enterprise?
2. The proprietor of a newly organized grocery store has been solicited by the representatives of several banks who have sought his account for their institutions. Why should these banks be interested in se-

curing his account when it is evident that it will cost them money to render the service of a checking account? What factors should this business man consider in determining which bank to use?

3. What are some of the more common mistakes in the use of checks?
4. What business uses are served by the certified check? By the bank draft? By the cashier's check? Would not a personal check serve as well for all these uses?
5. A merchant in Toledo, Ohio, has purchased merchandise from a shoe manufacturer in Brocton, Massassachusetts. Trace the course of a personal check sent in payment for the shoes.
6. What factors would a banker consider in judging the suitability of stocks presented as collateral for a loan? What other types of collateral might be presented?
7. Why should a banker have a wide knowledge of the business problems of his clients?
8. Why are the loans of a commercial bank ordinarily short-time loans?
9. How does a trust company assist in financing business operations?
10. What types of investment can be used for the surplus funds of commercial and savings banks?
11. How does the stock exchange assist in financing business?
12. Why have public utilities been able to sell their securities "over the counter" more often than have other enterprises?
13. Why have finance companies been developed in connection with the sale of automobiles when a highly developed commercial banking system was already in operation?
14. What considerations might induce a successful business man to provide in his will that a trust company should act as the administrator of his estate?
15. What conditions peculiar to farming have made it advisable for the federal government to assist in the organization of special types of financial institutions to aid in financing farm ownership?

Chapter XVIII—Personal or Private Finance

1. What considerations induce many individuals to use commercial banks as a place for deposit of funds?
2. Why should a banker distinguish between checking accounts and saving accounts in the payment of interest?
3. Compare the services of a building and loan association with those of of a commercial bank.
4. Why should the investments of insurance companies be regulated by law?
5. What disadvantages has a realty investment as compared with a security investment?

6. What considerations might induce an individual to invest in securities rather than to maintain a savings deposit in a commercial bank?
7. Enumerate a number of contingencies which might make it necessary for an individual to borrow from a commercial bank.
8. Why is it safe for a Building and Loan Association to make long-time loans on realty whereas commercial banks would not regard such loans as satisfactory?
9. It has been asserted that he who spends his money freely is more of a social benefactor than he who saves, since the former puts his money into circulation and thereby stimulates business while the latter by withholding his money tends to slow down business. Comment.
10. A retired business man plans to spend a considerable part of his time in travel. What type of investments might appeal to him and why? Would the same type necessarily appeal to a young professsional man?

Chapters XIX and XX—The Business Man's Relation to Labor

1. The American Department Store has been suffering from an excessive turnover in its working force. It has been proposed that the company offer a reward of $10 to any employee through whose recommendation a new employee is hired. Would you recommend the adoption of such a system? What other steps might be taken in the effort to reduce the rate of labor turnover?
2. The American Department Store has been asked to join with other department stores in the community in an agreement to the effect that no party to the agreement shall employ any individual who is employed in a member store. Should the American Department Store become a party to their agreement? Would the fact that the American company is efficiently operated affect your recommendation?
3. Indicate the steps by which you would proceed in making a job analysis of the occupation of a filing clerk.
4. The X Y Z Manufacturing Co. is dissatisfied with the tests that have been employed in the selection of their factory workers. The tests used have involved interviews, physical examinations, and intelligence tests. The tests have been copied from those successfully used by a large department store. What recommendations would you make to the X Y Z Company looking to the improvement of the tests used or the development of substitute tests?
5. With the local development of commercial and trade high schools the A B C Department Store is considering the abolition of its training department. Would you advise the company to take this step? Why? If the company retains its training department what would you recommend as subjects of instruction?
6. Indicate what you regard as an adequate accident prevention program for a manufacturer of heavy machinery.
7. The Wrought Iron Pipe Co. is considering the desirability of encour-

aging home ownership among its employees. What factors should the company consider before launching its housing venture? What classes of employees should receive assistance? What should be the character of the assistance given? Would the construction of company houses and the renting of these houses to employees accomplish the same purpose as the promotion of home ownership?

8. The Good Value Department Store is considering a group insurance plan for its employees. Should the company provide life insurance for all or only a part of its employees? Should the company pay all of the premiums or should the employee pay a share of the premium? Should the amount of insurance protection be the same for all employees? If the amount of insurance protection varies what might be the basis of variation? Which of these bases do you prefer? Why?
9. The Sanitary Canning Co., canners of vegetables, are considering an old age pension system for the benefit of their employees. What is your recommendation? Would your answer be different if the company were engaged in the manufacture of telephone equipment? Why?
10. Why is the piece rate method of compensating workers not generally employed in the building trades; in office work?
11. What advantages might a manufacturing concern expect to enjoy through employee representation in management?
12. Why does organized labor frequently object to a piece rate system of compensation?

Chapter XXI—Organized Labor

1. Compare the position of the serf of the Middle Ages with that of the slave.
2. What modern labor problems had their origin in the development of the factory system?
3. What economic and industrial conditions explain the relative unimportance of slavery in the northern states?
4. Trace the effect of the Civil War on the status of the laboring classes.
5. In what ways was the Knights of Labor unlike the modern labor union? Give reasons for the differences noted.
6. Explain the relative unimportance of labor unions among such classes as retail clerks, household workers, teachers, farm hands, and manual laborers.
7. What subjects might be discussed at a meeting of a city central? At a meeting of a local of the cooks and bakers union? At a convention of a state federation? At a convention of the American Federation of Labor?
8. What are the essential points of likeness between trade unions and industrial unions? The essential points of contrast?

9. A representative of the Industrial Workers of the World once said that sabotage was successfully being used to force certain employers to meet the demands of their workers. What did he mean?
10. Contrast the objects of unions belonging to the American Federation of Labor with the objects of revolutionary unionism? Which do you believe is more likely to be successful in this country? Why?
11. Do you believe that unions are justified in limiting the number of apprentices which may be taught a certain trade? In limiting output? In a closed shop policy?
12. Would you favor state or federal legislation which would make all strikes illegal?
13. What is the social justification of labor legislation?

Chapters XXII and XXIII—The Development and Organization of Transportation

1. Someone has said that "civilization depends on cheap and rapid transportation." Explain this statement.
2. What part did good roads play in the development and strength of the Roman Empire?
3. Why are roads today infrequently built by private enterprise? Why are bridges sometimes an exception?
4. Why has the railroad largely replaced the canal in American transportation?
5. Do you believe that owners of abutting property should pay the cost of road construction? Why?
6. Why should a resident of New York City be concerned with the condition of the roads of rural Iowa?
7. John Brown operates a store in a town of 600 population located 12 miles from a city of 50,000 population. He is considering adding millinery to his stock of merchandise. Would you advise him to add millinery? Why? What factors should he consider in arriving at a decision?
8. How has the development of bus lines and interurban railways affected the business of city retailers? Why?
9. In what ways, other than by supplying transportation, have the railroads contributed to the economic and social development of the United States?
10. The Chamber of Commerce of a town of 10,000 population has asked the Industrial Promotion Department of one of the railroads which serves the town to assist them in securing new industries. What factors would the industrial development department consider in determining the suitability of the town for the proposed industries?
11. The owners of a tramp steamer have been offered a cargo of lumber out of Seattle for Hong Kong. What factors would they consider

in determining the rate at which they would offer to carry the cargo?

12. Why is it particularly difficult for steamship companies to effect a monopoly?
13. A lumber company located at Portland, Oregon, is shipping a car of shingles to a dealer in Omaha, Nebraaska. Why might they wish to use an "order bill of lading" for this shipment? Through what hands would such a bill of lading pass?
14. What has been the effect of the fact that perishables can be reconsigned on the price of such products? Explain.
15. A manufacturer located in Chicago has been approached by a freight forwarder who asks that he be allowed to submit a statement of the ways in which he may aid the manufacturer. What facts would he bring out in his statement?
16. If railroads had always charged the same rate for the transportation of all commodities, what would have been the effect upon the industrial development of the United States? Specifically, in what ways would the industries of your town be different?
17. How may a manufacturer by studying packing methods very carefully affect economies in his transportation costs?
18. What considerations induce railroad companies to offer excursion rates?

Chapter XXIV—The Relation of Public Utilities to Business

1. The city council of a city of 50,000 population has received an offer from a gas company to supply the city with gas at a rate somewhat lower than is now being paid to the company supplying gas at the present time. Would you advise the council to grant a franchise to the new company? Would your answer depend on the number of years which the present franchise has yet to run?
2. A rapidly growing city of about 100,000 population is about to enter into an agreement with a street railway company, the agreement to cover a period of 20 years. What are some of the more important points which should be included in the agreement or franchise?
3. What developments in the production and distribution of electricity point to the necessity of substituting state or federal control for local control?
4. How might the inhabitants of a small town be benefited by the development of large scale production and distribution of electrical energy?
5. Would you expect the rate of interest on public utility bonds as a class to be higher or lower than the rate paid on the majority of industrial bonds?
6. If you contemplated the purchase of certain public utility bonds, what facts would you need to know about the company and about the community in which it does business?

7. What has been the effect of the development of consolidations in the public utility field on the risks to the investor in public utility securities?
8. Cite examples of legislation which might increase the risk incurred by the owners of public utility securities?
9. What factor limits the scale of operation of public utilities? Is this factor of importance in limiting the scale of operation of most manufacturing concerns? What can be done by utility companies to get away from this limitation?
10. What forces are making for combinations of public utility companies?

Chapter XXV—Business Records

1. Frank Thomas operates a grocery store in a city of 100,000 population. He has two clerks and one delivery man. He tries to operate on a cash basis but is not always successful in carrying out this policy. What records will he need to keep in his business? What records kept by others will he examine closely?
2. If Mr. Thomas were to incorporate his business and sell a portion of the stock to persons not active in its management, what changes in his record keeping would he need to make?
3. The Novelty Advertising Co. is engaged in the manufacture and sale of advertising specialties such as blotters, note books, rulers, thermometers, etc. What records should this company keep in order that they may plan their production intelligently? Which of these records would be of especial interest to the purchasing department? Which ones would interest the employment department most vitally? What would be the effect on the business of this company of a general improvement in the business conditions of the country? Where would the executives of this company secure information which would enable them to take advantage of the prospective betterment of business conditions?
4. The accounting department of a department store has received a certain bill. What information should they have before a voucher for its payment is issued? Where will they secure this information?
5. The merchandise manager of a large mail order house recently asked the accounting department for any information in their possession which would enable him to plan his purchases for the next 6 months' period. What information would be given him?
6. The sales manager of an automobile manufacturing concern believes that his agents in New England are not selling as many cars as they should. What information should he have in order that he may test the validity of his assumption?

7. Why does the modern farmer keep more intelligent records than did his predecessors? What matters are covered in the records kept?
8. Assume that you were given a position in the statistical division of a company making farm implements. You were told that a part of your duties would be the preparation of certain graphs. What graphs would you make for the sales manager? For the production manager? For the credit manager? For the treasurer?
9. Why should a state legislature be willing to make an appropriation for the support of a bureau of business research as a part of the work of the state university?

Chapter XXVI—Risk and Risk-Bearing Institutions

1. Why should a business man whose property is covered by fire insurance be interested in minimizing his fire hazards?
2. The X Y Z Manufacturing Co. has suffered heavy losses as a result of the decline in the prices of both raw materials used and of the finished products. How might they change their manufacturing policy in such a way as to aid in decreasing such losses in the future? What are the possible disadvantages of such a change of policy?
3. The Economy Department Store has suffered heavy losses from time to time as a result of sudden style changes. How may the department store minimize such losses in the future?
4. Are business risks greater in progressive than in unprogressive countries? Explain.
5. Why is insurance not a substitute for business judgment?
6. The Brown Dry Goods Co., a department store organization, finds itself located out of the center of retailing activity as a result of a shift in the location of the principal retailing district. The management is reluctant to move and is considering possible changes in policies or methods which may overcome the handicap. What suggestions have you to offer?
7. Why should a business man who is interested in promoting the welfare of society be concerned with losses which are suffered by insurance companies?
8. What are some of the more important business risks to which the farmer business man is subjected?
9. How may a business make use of the services of a life insurance company?
10. Why do credit insurance companies provide in their contracts that the insurance company shall be responsible for only a part of the bad debt losses of the insured?

11. Why is saving not a satisfactory substitute for life insurance? Why is this especially true in the case of a man whose income is made up largely of wages?

Chapter XXVII—Business Men's Associations

1. The United States Chamber of Commerce has had as one of its activities in recent years, the encouragement of the development of codes of business ethics in different lines of business. What might be some of the points covered in a code of ethics promulgated by an association of furniture manufacturers? By a retail grocers association?
2. What factors are responsible for the increasing emphasis on the ethical conduct of business?
3. In what ways have the activities of the Southern Pine Association benefited a small manufacturer of lumber? A retail lumber dealer in Michigan? A building contractor? An individual who expects to build a home in the near future?
4. What arguments would you use to prove to a manufacturer of work clothing in the Middle West that he should become a member of the United States Chamber of Commerce? A member of a national trade association in his field? A member of his local chamber of commerce?
5. You have been notified that the position of secretary of the chamber of commerce in a city of about 50,000 population is open. In considering your own qualifications for the place you naturally consider the duties of the secretary. What would they be?
6. In what ways have local chambers of commerce aided the farmers of their communities? The dentists? The retail grocers? The retired business men living in the community?
7. How would a young man employed as a clerk in the credit department of a manufacturing concern be benefited by the activities of the National Association of Credit Men?
8. Outline a program for a meeting of a local association of retail druggists.
9. A hardware dealer who has been conducting his business very successfully for the last 5 years has received an invitation to become a member of the local branch of one of the national luncheon clubs. Would it be to his advantage to accept the invitation?
10. In what ways may a county unit of the American Farm Bureau Federation serve its community?
11. A shoe merchant recently refused to join his local chamber of commerce on the grounds that he belonged to the retail merchants' association and hence there were no reasons why he should join the chamber of commerce. Was his stand well taken?

Chapter XXVIII—The Relation of Government to Business

1. Have either state or federal governments conducted business operations which have conflicted with private business enterprises? Justify the policy followed.
2. Cite examples of governmental aid which has been given to industries in their early stages of development.
3. In what ways has the federal government been of aid to farmers?
4. How could a trade association in the cement industry be aided by the Bureau of Standards?
5. It has been stated that the Bureau of Agricultural Economics has been of service to every citizen in that it has helped to make an increased standard of living possible for many people. Explain how this may be true.
6. How has the Federal Trade Commission helped the consumers of manufactured products? The manufacturers of these products?
7. Why do business men frequently object to governmental conduct of business?
8. Why is the government peculiarly fitted for engaging in scientific research?
9. Why should a business man with high standards of business ethics be interested in the regulatory activities of the Federal Trade Commission?
10. Why has the federal government found it necessary to exercise a greater degree of control over railroads than over most other lines of business?

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